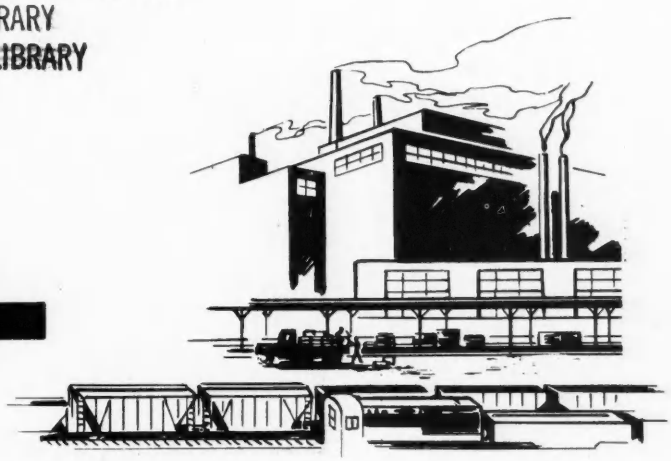
DOING BUSINESS WITH THE U. S. ARMY TRANSPORTATION CORPS

THE UNIVERSITY OF AKRON
LIBRARY
LAW LIBRARY



1959-1960

data

DATA PUBLICATIONS 10/59 R-10

UNIVERSITY OF AKRON
Bierce Library
302 E. Buchtel Ave.
Akron 4, Ohio

7A1257
P293

U.S. Army chooses

Lycoming T55

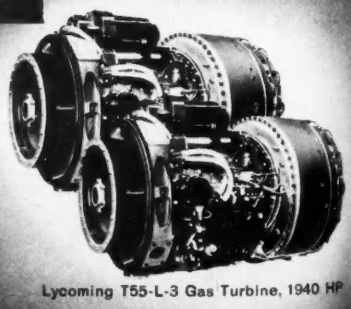
for its newest "workhorse"

Vertol YHC-1B Chinook

Designed to support fast-moving combat teams of the "Pentomic" army, this 2- to 3-ton all-weather transport can carry troops, missiles or cargo in its unobstructed 30-foot-long payload compartment.

To power the Army's YHC-1B "Chinook," evaluation boards of both the Army and Air Force selected two Lycoming T55's, rated at 1940 hp each. Developed under joint Army-Air Force sponsorship, the T55 is the most powerful American free-power turbine to complete its 50-hour preliminary flight rating test.

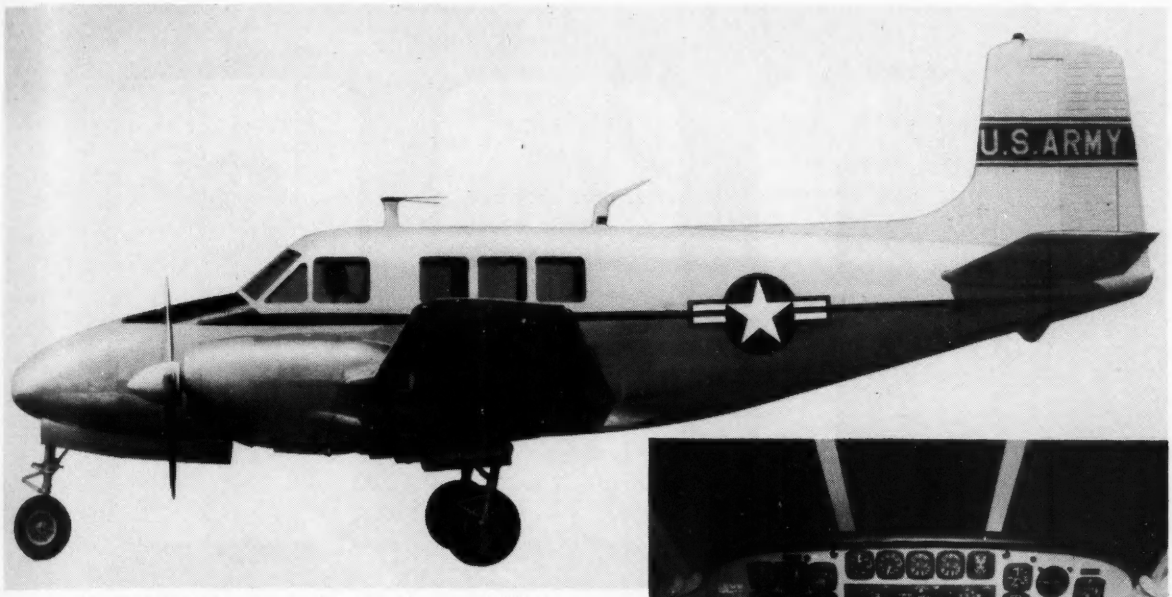
For further information on any of Lycoming's complete line of power plants, write to: Lycoming Division, Avco Corporation, Stratford, Conn.



Lycoming T55-L-3 Gas Turbine, 1940 HP

Lycoming

A Division of Avco Corporation | Stratford, Conn., Williamsport, Pa.



As spectacularly new as it looks, the new L-23F has an entirely new fuselage that is longer, wider and higher inside than the L-23D and includes a separate pilot compartment and air-stair door.

The New U.S. Army L-23F Transport

Never before has any airplane offered so many pleasant surprises—and still retained every desirable feature of its predecessors.

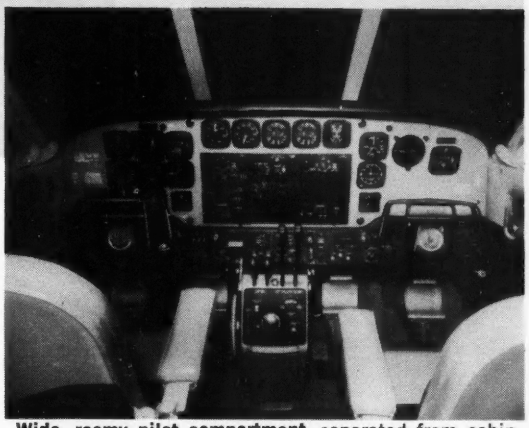
In addition to its extra roominess, comfort, privacy, quiet and almost unlimited versatility, the new L-23F is a pilot's dream.

With supercharged fuel injection engines, the L-23F has performance capabilities never before possible with carburetor engines of similar horsepower. It's smoother, too, and frees you completely from icing due to fuel vaporization. More precise fuel metering lets you calculate fuel consumption more accurately, and gives you longer range and greater fuel economy.

Other Beechcraft projects today include research and development work on launching and recovery systems for missiles, drones, and manned aircraft; target and reconnaissance aircraft; ground support equipment; and classified projects in the advanced fields of aerodynamics, cryogenics, thermodynamics and aircraft range extension.

★ ★ ★ ★

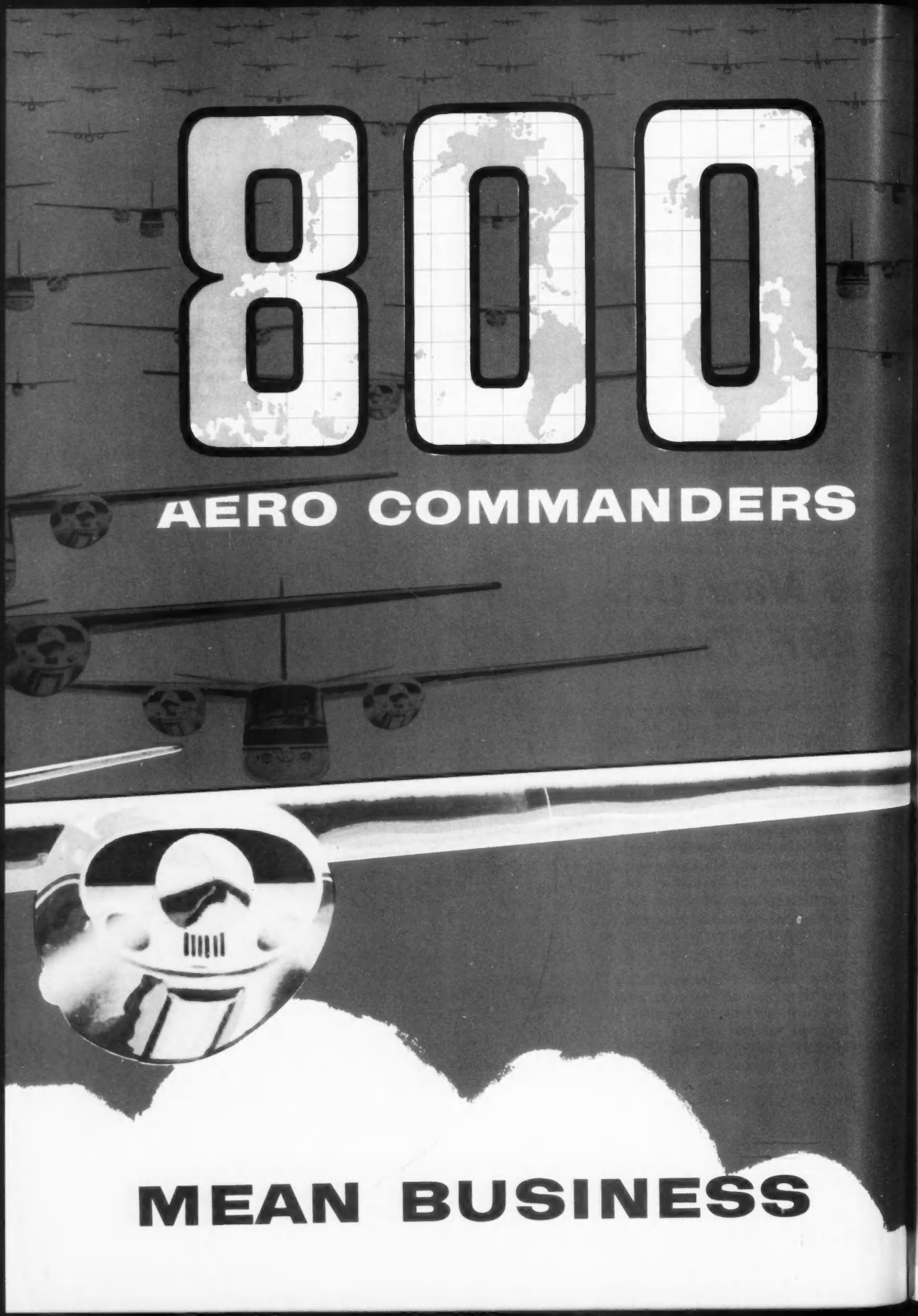
Military commanders are invited to write for further information—Military Division, Beech Aircraft Corp., Wichita 1, Kansas, U. S. A.



Wide, roomy pilot compartment, separated from cabin by sliding doors, has plenty of room for instruments and radio. Adjustable crew seats and wide aisle, plus conveniently located controls and excellent flight characteristics make the new L-23F a pilot's dream.

New air-stair door offers unexcelled convenience in entering or leaving the new L-23F. Unrestricted passenger and crew movement, in-flight baggage availability and pleasingly low cabin noise level are other L-23F plus features.

Beechcraft BEECH AIRCRAFT CORPORATION • WICHITA, KANSAS, U. S. A.


800
AERO COMMANDERS
MEAN BUSINESS

mean business

In just eight years of production, this fine aircraft has earned the respect and acceptance of pilots, executives, presidents, kings and military men around the globe.

Aero Commander has set three world records; range, altitude and speed.

Today, over 800 production models in use prove the recognized superiority of the magnificent Aero Commander.

MILITARY RELATIONS DEPARTMENT

AERO COMMANDER

AERO DESIGN & ENGINEERING CO
BETHANY, OKLAHOMA

Subsidiary of
ROCKWELL STANDARD
Corporation

Government R&D

data

OCTOBER 1959

Volume 4 **Number 10**

Published monthly by
QUEENSMITH ASSOCIATES, INC.
Publisher:
MURRAY QUEEN SMITH
Editor:
MARTIN CAIDIN
Business Manager:
RYAN J. ARATA
Reader Service Manager:
MISS HELEN RODIN
Layout:
HOMER STEVENS

Guest Editors:
WILLIAM E. WILSON, Procurement Division Office of Chief of Transportation; RALEIGH CARROLL, Technical Liaison Officer of Chief of Transportation; PAUL J. CULLER, Deputy Technical Liaison Officer of Chief of Transportation.

CONTENTS **Page Number**

Message from Chief of Transportation Corps 6
Mission of the Transportation Corps 7
Funding 9
Functions of OCOFT 10
OCOFT Chart 11
TSMC Chart 13
Message from the Commander, TSMC 15
Briefly TSMC 15
The Army Buys TC Equipment 16
What TSMC Buys 18
TC Procurement Flow Chart 20
TSMC Contractors 23
TC Procurement Chart 25
TSMC Field Activities 26
TC Field Activities Map 27
TRECOM Chart 29
Message from CO TRECOM 31
Meet TRECOM 31
TRECOM Contracts 32
Military Traffic Management Agency 33
TC Operational Requirements 34
How to Participate in Army Contracts 37

COMING EDITIONS OF GOVT. R & D DATA

Dec. '59 — Army Ordnance Corps
Jan. '60 — Air Research and Development Command
Feb. '60 — Bureau of Naval Weapons
Mar. '60 — National Aeronautics and Space Administration

SUBSCRIPTION RATES: U.S.—$12.00 for 1 year; $22.00 for 2 years. Foreign—$15.00 for 1 year; $28.00 for 2 years. Available to Government personnel through Federal Supply Schedule, FSS Stock Requisition Number 7630-148, Index No. 1256, FSS Section 76, Page 90. Checks may be made payable to DATA.
Government R & D DATA is published monthly. Second Class privileges authorized at Washington, D. C.

DATA PUBLICATIONS

1346 Connecticut Avenue, N. W. Washington 6, D. C.
*Title registered United States Patent Office
SECOND CLASS POSTAGE PAID AT WASHINGTON, D. C.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT AND CIRCULATION OF "Govt. R&D DATA Magazine" published monthly at Washington, D. C. for October 1959.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Murray Queen Smith, 1500 Mass. Ave., N. W., Wash., D. C.; Editor, Martin Caidin, 44 Netto Lane, Plainview, New York; Managing editor, None; Business manager, Ryan J. Arata, 6802 Hopewell Ave., Springfield, Va.

2. The owner is: Murray Queen Smith.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: NONE.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee of in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

MURRAY QUEEN SMITH
Publisher

Sworn and subscribed to me this 20th day of October, 1959.

BENJAMIN E. BECKER
Notary Public, District of Columbia
Commission expires 15 March 1961

Message from

THE CHIEF OF U.S. ARMY TRANSPORTATION

MAJ. GEN. F. S. BESSON, JR.

Originally a Corps of Engineers officer, Frank S. Besson, Jr. has been described as a "brilliant administrative engineer" by staff officers who have been associated with him. General Besson has a record for being a fair and just Army Officer with a brilliant mind that associates say is often years ahead of his contemporaries.

An extremely busy man, General Besson depends upon a well-advised staff. Staff officers, however, even at star-rank level, do not make moves without consulting with General Besson.

Frank S. Besson, Jr. was born at Detroit, Michigan, 30 May, 1910. He attended high school in Leavenworth, Kansas, and entered the USMA at West Point in July 1928. He graduated from the Academy and was commissioned a second lieutenant in the Corps of Engineers 10 June 1932.

During his duty on development with the Corps of Engineers, Frank Besson played a considerable part in the development of many important items of military equipment, including portable steel airplane landing mats, portable military pipelines, the steel treadway bridge for the Armored Forces, other modern military floating and fixed bridges, mine detectors, anti-tank and anti-personnel mines, engineer airborne and mountain equipment and armored bulldozers.

Frank Besson served with distinction during WWII in the Persian Gulf Command, at Manila in the Philippines, and later at Yokohama, Japan. In March 1946 he was named transportation officer of the Eighth Army in Japan. In July 1950 he was transferred from the Corps of Engineers to the Transportation Corps. On 17 March 1958, General Besson became U. S. Army Chief of Transportation.

He and his wife, the former Miss Nancy Sessions Morris, of Greenville, Mississippi, have three sons, Frank S. III, born June 13, 1936, Woodson T., born September 3, 1944, and Peter R., born June 11, 1948.

The U. S. Army Transportation Corps is experiencing rapid changes in keeping step with military technological improvement. For example, we have recently assumed a major mission in the field of Army aircraft supply and maintenance, and are currently planning the assumption of Army aircraft procurement and engineering functions from the Air Force and Navy. Similarly, our transport aviation and ground combat roles have enjoyed considerable expansion.

We like to refer to the Transportation Corps as the "Core of Mobility" because each of our diverse missions has some connotation of mobility. Our interests thus reach also into all of the aspects of civilian transportation.

With these widespread commitments, we must constantly strive to place emphasis where it is needed most. Our most critical need is to find means of bridging the gap which has developed between Army mobility and firepower, due to the spectacular advances which have been made in the nuclear field and in missilery.

This issue of DATA indicates our primary fields of interest, and points out those areas where we need help the most. We should be most happy to hear from you, if you have solutions which you feel are applicable.

F S Besson L

F. S. BESSON, JR.
Major General, U.S.A.
Chief of Transportation

MISSION OF THE U.S. ARMY TRANSPORTATION CORPS

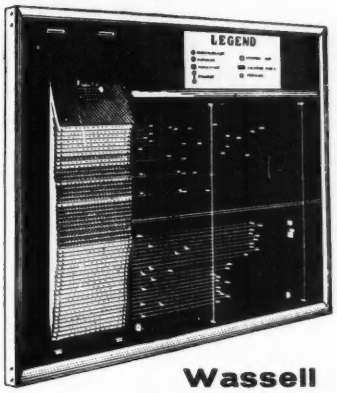
The primary mission of the Transportation Corps is to move troops and supplies for the Army and in certain instances for the Air Force and Navy. The Transportation Corps discharges this mission either by direct operations or by arranging lift with other agencies. Ocean terminal operations are an example of direct operations. Lift arranged with other agencies includes use of commercial facilities (such as the railroads and civil airlines) or transport support from DOD sources such as the Military Sea Transportation Service and the Air Force's Military Air Transport Service.

The second major mission of the Transportation Corps is to supply and maintain transportation equipment for the Army.

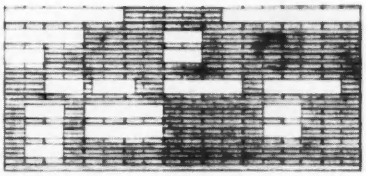
The third major mission of the Transportation Corps is to supervise the Military Traffic Management Agency. This is a Single Manager responsibility of the Secretary of the Army, with an Executive Director, charged with execution, and supervised through command channels from the Chief of Transportation to the Secretary of the Army. The Military Traffic Management Agency supervises the procurement and use by all three departments of commercial transportation services in the continental United States, including commercial airlift.

The fourth major mission of the Transportation Corps is to provide technical supervision over world-wide Army transportation activities.

Find Out How Management's Twin Controls Speed Operations



Wassell Produc-Trol®



Wassell Vu-Board

Whatever your management or supervisory role in defense planning, development or manufacture, you'll find the Wassell Twin Controls of Management—Produc-Trol and Vu-Board—unfailing aids to more productive performance.

You'll detect trouble-spots far in advance, avoid bottlenecks, get more from every man and machine.

Get the full details now. Write or mail the coupon below today.

Wassell Organization Inc.
Westport, Connecticut
Pioneers in Mechanical Graphic Controls

WASSELL ORGANIZATION INC., Dept. DA
225 State St. W., Westport, Conn.

Please send me the full, free story of Wassell Produc-Trol and Wassell Vu-Board and how they are speeding operations throughout defense industry.

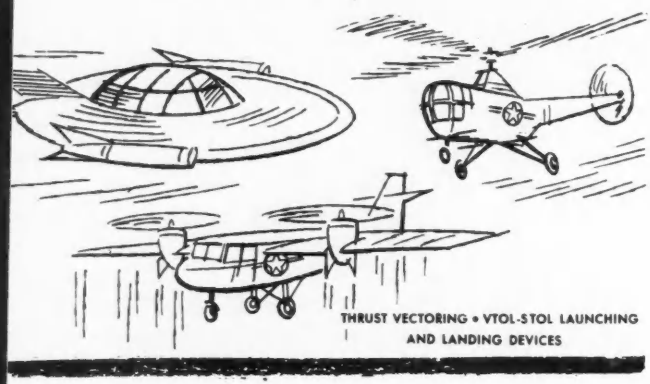
Name_____

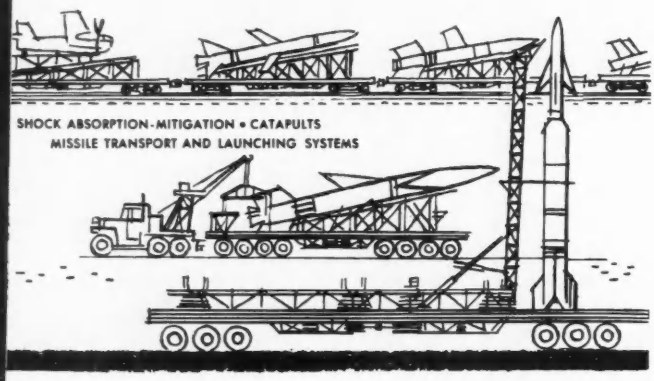
Title_____

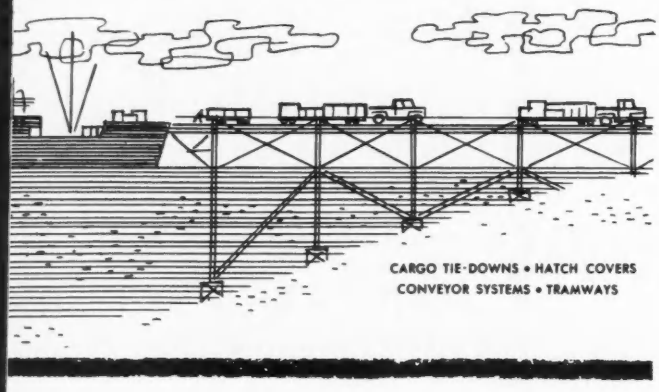
Organization_____

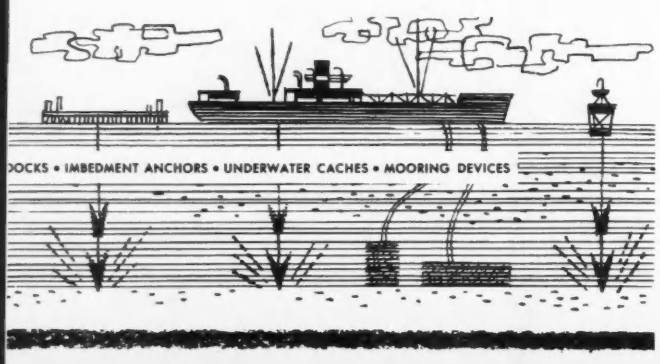
Address_____

City_____ Zone_____ State_____









TO MEET NEW REQUIREMENTS . . .

WE PROVIDE

operations analysis
systems analysis
creative engineering
logistic systems analysis
applied research
development and test
prototypes
production

IN DIVERSE ENVIRONMENTS

air
land
sea
underwater

WITH SPECIALISTS

highly skilled
experienced

WITH SUPERB FACILITIES

design
fabrication
quantity production

ADVANCED SYSTEMS DEVELOPMENT DIVISION
140 Oregon Street
El Segundo, California

SYSTEMS ENGINEERING DIVISION
1626 L Street, N.W.
Washington 6, D.C.

CLEVELAND PNEUMATIC INDUSTRIES, INC.
1001 Connecticut Avenue
Washington 6, D.C.

Transportation Corps Funding, 1959-60

FISCAL YEAR 1960 FIGURES

FY 1960—Research and Development:
$46.7 million

FY 1960—General Procurement:
$178.8 million

FY 1960—Operation and Maintenance:
$271.5 million

Military Traffic Management Agency:
MTMA reports that more than $563.5 million was spent during FY 1959 and excepts to spend a near similar amount in 1960 for procurement of commercial transportation services for use of the armed forces within the U. S.

FY 1959—Research and Development broken down:

The Transportation Corps Research & Engineering Command (TRECOM) at Fort Eustis submits the following figures for FY 1959 and expects a similar breakdown for FY 1960:

a. AIR—research and engineering contract service—$16,071 million. Procurement of prototype support — $20,980 million.

b. SURFACE—research and engineering contract service — $1,625 million. Procurement of prototype support—$1,775 million.

FACILITIES

Here, *under one roof,* you'll find complete responsibility, clearance and know-how, plus a combination of facilities built up over the past 25 years, geared to satisfy all your technical publication requirements.

OVER 250 EMPLOYEES

Technical writers and illustrators together with a staff of skilled graphic arts craftsmen not only reduce your problems through their complete understanding but save you time and money as a result of the integrated CMJ team operation.

Call, write or wire:
Director of Publications

complete TECHNICAL PUBLICATION SERVICE

ONE P.O. COVERS ALL THESE OPERATIONS

DIRECTOR OF PUBLICATIONS

PROJECT CHIEF

ART DIRECTOR	EDITOR	PRINTING PLANT MGR.
LAYOUT	PLANNING	COMPOSITION
TECHNICAL ILLUSTRATING	RESEARCH	REPRODUCTION TYPING
Cutaways	TECHNICAL WRITING	PROOFREADING
Exploded Views	Mechanical	REPRODUCTION CAMERAS
Schematics	Hydraulic	OFFSET PLATEMAKING
Wiring Diagrams	Electrical	OFFSET LITHOGRAPHY
Wash Drawings	Electronic	LETTERPRESS PRINTING
Renderings	Nuclear	BINDING
PHOTO-RETOUCHING	PARTS LISTING	Folding, Collating, Stitching
MAKE UP		

Corydon M. Johnson Co. INC. **BETHPAGE, L. I., NEW YORK WEIls 8-4600**

FUNCTIONS OF OCOFT

The Chief of Transportation with his departmental staff in Washington exercises command supervision over:

- **The Military Traffic Management Agency with headquarters in Washington;**
- **Three terminal commands—one each, on the Atlantic, Gulf and Pacific coasts;**
- **The Transportation Supply and Maintenance Command in St. Louis;**
- **A Training Command and the Transportation School at Fort Eustis; and**
- **A Research and Engineering Command also at Fort Eustis.**

In his command responsibilities, the Chief of Transportation annually spends about 750 million dollars, a little less than half of which is for materiel; about an equal amount for transportation services such as ocean transportation and port operations, and about 4% each to R&D and transportation military operations such as technical intelligence, training and tactical forces activities. In addition, the Transportation Corps exercises technical supervision over another 700 million dollars, most of which is under the scrutiny of the Military Traffic Management Agency.

Transportation Scheduling and Routing Problems / High-Speed Computers + Linear Programming Specialists = Fast, Accurate Solutions (Minimum Ton-Miles + Lowest Cost)

C-E-I-R

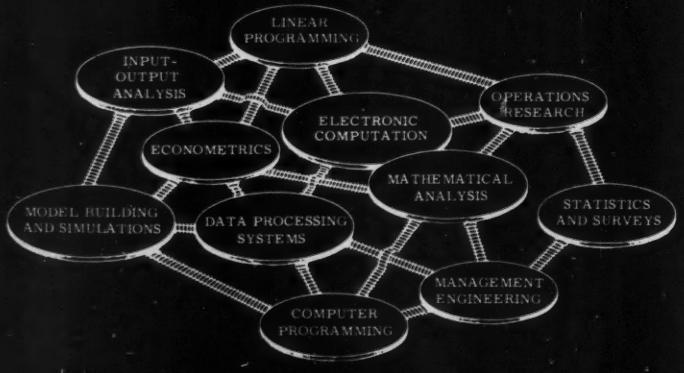
As a research firm operating the nation's largest independent commercial computing center, C-E-I-R has solved complex problems in transportation scheduling and routing, and optimum location of production and warehousing operations, for both military and commercial clients.

Its facilities, which include high-speed IBM 704 and 709 computers and accessory data processing equipment, are cleared for top secret work. Its professional staff of over 100 includes nationally known authorities on linear programming, operations research and allied techniques.

LINEAR PROGRAMMING

Linear programming provides the fastest, most accurate and economical solutions to complex problems in which there are many variables and alternative courses of action.

L. P. techniques have been applied with great success in determining the most efficient routing of traffic, . . . scheduling and routing of aircraft, freight cars, locomotives and trucks . . . selecting optimum locations of plants and depots . . . and making optimum assignments of transportation personnel.

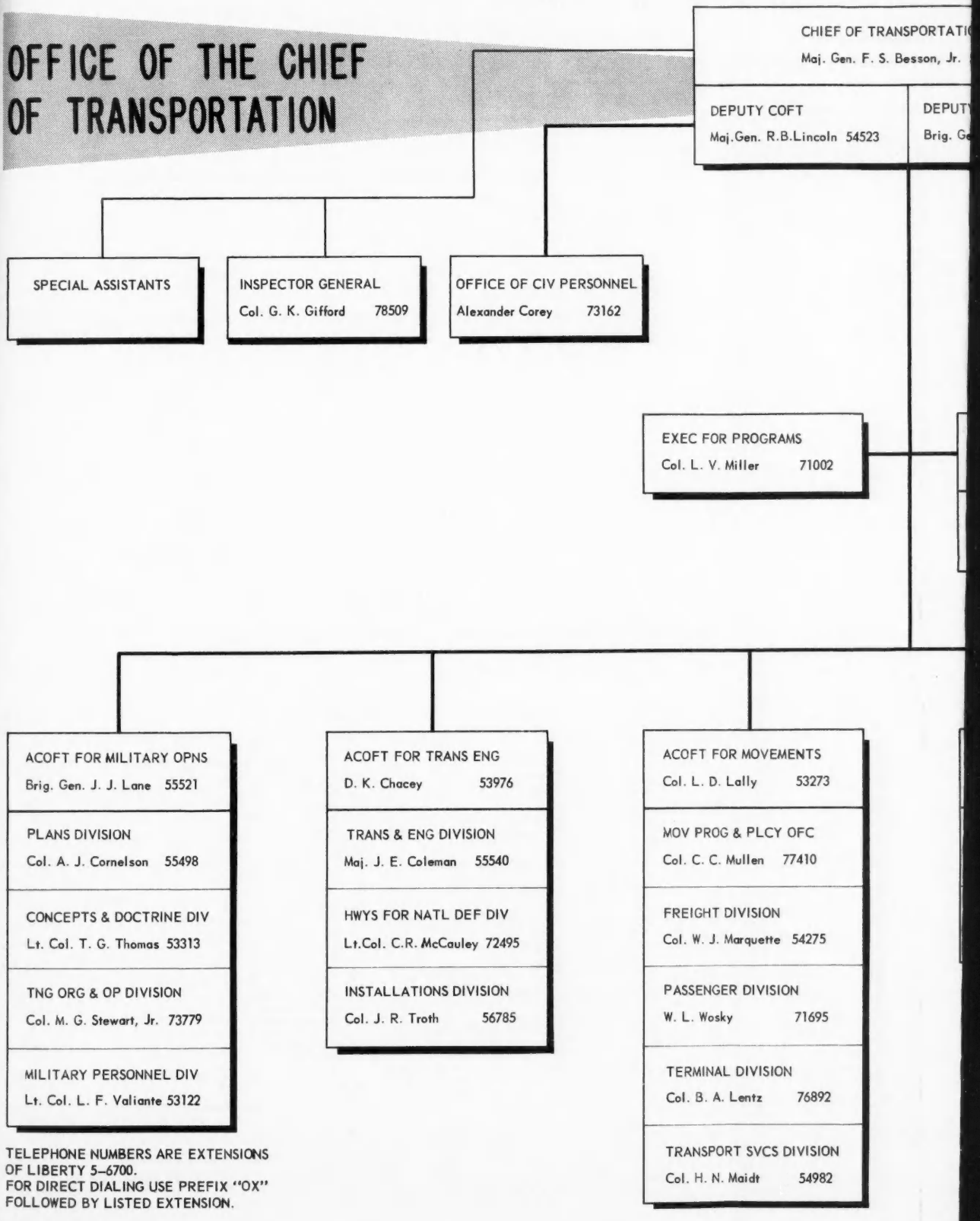


C-E-I-R

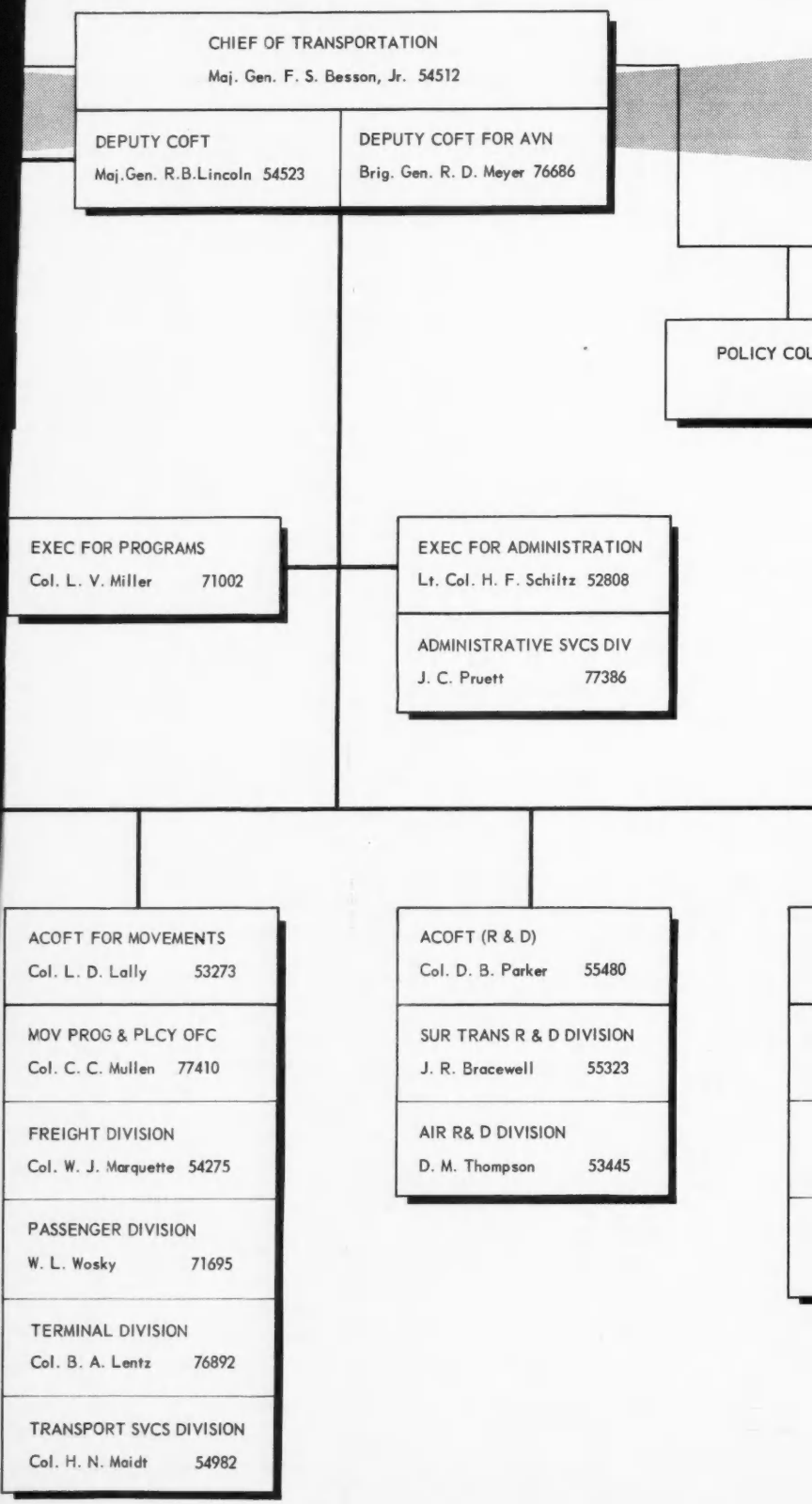
C E
I R

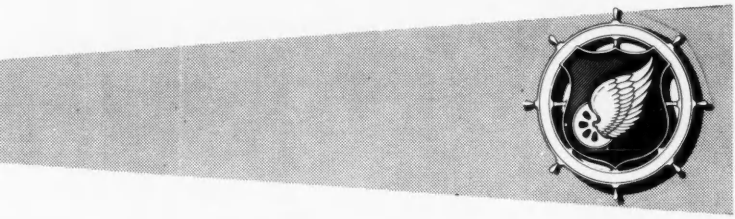
1200 Jefferson Davis Highway
Arlington 2, Virginia, OTis 4-6377

OFFICE OF THE CHIEF OF TRANSPORTATION



TELEPHONE NUMBERS ARE EXTENSIONS OF LIBERTY 5–6700.
FOR DIRECT DIALING USE PREFIX "OX" FOLLOWED BY LISTED EXTENSION.


CHIEF OF TRANSPORTATION
Maj. Gen. F. S. Besson, Jr. 54512
DEPUTY COFT
Maj.Gen. R.B.Lincoln 54523
DEPUTY COFT FOR AVN
Brig. Gen. R. D. Meyer 76686
POLICY COU
EXEC FOR PROGRAMS
Col. L. V. Miller 71002
EXEC FOR ADMINISTRATION
Lt. Col. H. F. Schiltz 52808
ADMINISTRATIVE SVCS DIV
J. C. Pruett 77386
ACOFT FOR MOVEMENTS
Col. L. D. Lally 53273
MOV PROG & PLCY OFC
Col. C. C. Mullen 77410
FREIGHT DIVISION
Col. W. J. Marquette 54275
PASSENGER DIVISION
W. L. Wosky 71695
TERMINAL DIVISION
Col. B. A. Lentz 76892
TRANSPORT SVCS DIVISION
Col. H. N. Maidt 54982
ACOFT (R & D)
Col. D. B. Parker 55480
SUR TRANS R & D DIVISION
J. R. Bracewell 55323
AIR R& D DIVISION
D. M. Thompson 53445



Y COUNCIL

GENERAL COUNSEL
Col. Herbert K. Greer 75702

OFFICE OF SMALL BUS
Richard L. Pilcher 75754

ACOFT FOR MATERIEL
Col. B. T. Resler 77388

PROCUREMENT DIVISION
Lt.Col.W.E.Schoenfeld 52014

SUP & REQUIREMENTS DIV
Col. H. P. Andersen 56311

MAINTENANCE DIVISION
Capt. J. B. Patrem 55416

COMPTROLLER
Col. R.K.Bannister 54505

MANPOWER OFFICE
Lt.Col.M.S.Lambard 79738

BUDGET DIVISION
G. H. Benton 71044

FIN & ACCOUNTING DIV
Col.R.G.DeVecchio 56960

MANAGEMENT DIVISION
J. L. Schaffer 74096

STATISTICAL SYS & RPTS DIV
Lt.Col.E.W.Cleworth 55113

U.

AIRCRAFT AND SUR
PORT SYSTEMS PHA

DIRECTORATE OF ADMINISTRATION AND PERSONNEL

OFFICE OF THE COMMANDER
(TCSMC—G) — 6th FLOOR

	EXT.
Commanding General	
BRIGADIER GENERAL WILLIAM B BUNKER	2201
Aide-de-Camp	
LT. LEONARD R. FRANSEEN	2201
Deputy Commander (TCSMC—GD)	
COL. C. PASSINK	2202
Executive Officer (TCSMC—GE)	
COL. ALBERT B. EVANS	2203 - 2204

OFFICE OF THE COMMAND JUDGE ADVOCATE
(TCSMC—J) — 7th FLOOR

	EXT.
MAJOR JOHN A. MACOMBER	2214

OFFICE OF THE COMMAND INSPECTOR GENERAL
(TCSMC—IG) — 7th FLOOR

	EXT.
Command IG—Col. Ira W. Grande	2215
Asst. Comd. IG—Lt. Col. Walter L. Burt	2174
Asst. Comd. IG—Major Wm. K. Burgess	2549
Asst. Comd. IG—Major Frank R. Rusbarsky	2174
Asst. Comd. IG—Capt. Myron W. Little	2549
Adm. Asst.—Miss Norma Kellner	2174

AIRCRAFT AND SURFACE TRANSPORT SYSTEMS PHASING OFFICE
(TCSMC—T) — 3rd FLOOR

	EXT.
Chief—Col. Herbert L. Phyfe	2236 - 2598
Deputy Chief—Mr. Robert M. LaRue	2236 - 2598
Asst. to Chief—Lt. Col. Raymond L. Orton	2236 - 2598

PLANS AND PROGRAMS OFFICE
(TCSMC—L) — 7th FLOOR

	EXT.
Chief—Lt. Col. Carl G. Schone	2266
Asst. Chief—Lt. Col. Fredric D. Kirk	2266
Programs Division (TCSMC—LP)	
Chief—Mr. Raymond H. Hammes	2262
Plans Division (TCSMC—LL)	
Chief—Mr. Charles W. Martin	2261

OFFICE OF THE COMPTROLLER
(TCSMC—C) — 6th FLOOR

	EXT.
Acting Comptroller—Mr. Leland Springer	2252
Administrative Services Office (TCSMC—CA)	
Acting Chief—Mrs. Loraine O'Brien	2263
Budget and Funds Division (TCSMC—CB)	
Chief—Maj. Manley Clark	2264 - 2265
Internal Review Division (TCSMC—CI)	
Chief—Mr. Welcome R. Silva	2209
Management Division (TCSMC—CM)	
Chief—Lt. Col. Richard A. Hansen	2226
Deputy Chief—Mr. Cecil Corbin	2226
Assistance Br.—Mr. Elmer Kissel	2235
Mgt. Analysts	2463
Manpower Br.—Mr. Gerald Schwaegerle	2234
Mgt. Analysts	2232
Review & Analysis Br.—Mr. Vasil Klyasheff	2227
Reports Control	2225
Finance and Accounting Division (TCSMC—CF)	
Chief—Maj. Robert W. Steele	2267
Deputies—CWO Thomas J. Hart, Jr.	2561
Mr. Ralph J. Eckelkamp	2267
Disbursing Br.—Mr. James Farasy	2205
Examination Br.—Mrs. Helen Byrne	2258
Acctg. Services Br.—Mr. John Hartnett	2224
Cost Acctg. Br.—Mr. William Kuhn	507
Analysis & Proc. Br.—Mr. Norman Hahn	2464
Acctg. Operations Br.—Mrs. Merceda Lucksinger	506
Stock Fund Home Office Division (TCSMC—CS)	
Chief—Mr. Tony O'Truk	2230
Stock Fd. Acctg. Op.—Mr. Ed Rhodes	2229

U. S. ARMY SIGNAL AVIONICS LIAISON OFFICE
(SIGVL) — 4th FLOOR

	EXT.
Commander—Capt. William R. Chaires	2250
Sig. Ln. Rep.—Mr. Lawrence E. Gallagher	2254
ECP Coordinator—Lt. William L. Corley	2254
Sig. Equip. Coordinator—Capt. Klein J. Leonard	2250
Sig. Sup. Coordinator—Mrs. Jean E. Armour	2250

DIRECTORATE OF MATERIEL REQUIREMENTS

DIRECTORATE OF
(TCSMC—A)

Director and Adjuta
Deputy Director—M
Asst. to Director—L
Act. Asst. Adj. Ge

Administrati
Chief
Plans & Control B
Service Br.
Travel & Orders Br
Pub. Info. & Hist. I

Trai
Chief

Faci
Chief—Mr. Wm. H.
Safety Engineer—Mr
Installations Br.—M
Supply Br.—Miss L
Acct. Officer—Mr. D

Military Person
Chief—Capt. Clinto
Military Pers. Br.—
Security Br.—Mrs.

Civilian
Chief—Mr. C. Wayn
Asst. CPO—Mr. Wa
Employee Utiliz. Br
Salary & Wage Br.
Administrative Br.—
Awards Br.—Mrs. C

Mail and
Chief—Mr. James
Central Records Br.
Mail & Message Br
Records Admin. Br.

Printing and
Chief—Mr. Ray Jan
Pub. Liaison O
Editorial Br.—Mr. E
Forms Control—
Graphic Arts Br.—M
Reproductions Br.—
Publications Supply

Reference a
Chief—Mr. Leonard
Technical Ref. Br.—
Engr. Data Br.—Mrs
Bidders Inf. Br.—M
Circulation Desk

DIRECTORATE OF
(TCSMC—Q)
Director—Col. Robt.
Deputy Director—Mr

Admin
Chief—Mr. Howard
Adm. Services

Mission
Project Offices
Chief—Mr. John L.
Special Proj. O
Logistics Mgt.—Mr.
Systems Develop—M
Materiel Alws.—Mr.
Logistics Asgt. &
Intersvc Sup. S

Marine C
Chief—Mr. Nathan

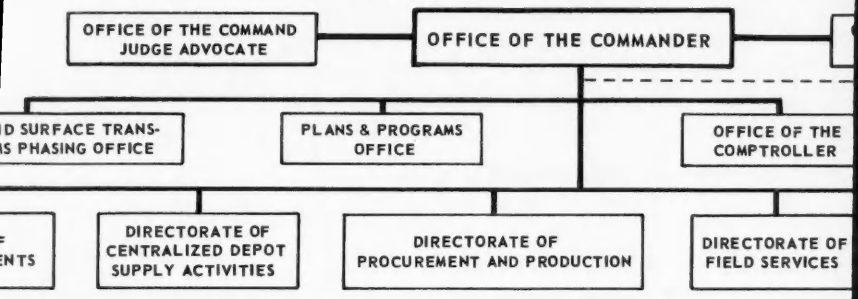
Project Offices
Propelled Craft—Mr
Landing & Non-Pro
Demand Analysis—

Rail Commodity a
Acting Chief—Mr.

Project Offices
Motive Power—Mr.
Rolling Stock—Mr.
Demand Analysis
General Supplies—

U. S. ARMY TRANSPORTATION SUPPLY AND

12th & SPRUCE STREETS ST. LOUIS, MISSOURI MAIN 1-6426


OFFICE OF THE COMMAND JUDGE ADVOCATE
OFFICE OF THE COMMANDER
ID SURFACE TRANS-
AS PHASING OFFICE
PLANS & PROGRAMS OFFICE
OFFICE OF THE COMPTROLLER
ENTS
DIRECTORATE OF CENTRALIZED DEPOT SUPPLY ACTIVITIES
DIRECTORATE OF PROCUREMENT AND PRODUCTION
DIRECTORATE OF FIELD SERVICES

E OF ADMINISTRATION & PERSONNEL

3rd FLOOR

	EXT.
Adjutant General—Col R. M. Crosby	550 - 551
ctor—Mr. C. S. Murray	550 - 551
ector—Lt. Col. Paul V. Plapp	554
dj. Gen.—CWO Joseph T. Kuntz	546

nistrative Operations Division (TCSMC—AA)

	554
trol Br.	2248
	2257
ders Br.—Mrs. Barbara Peck	547 - 588
Hist. Br.—Mr. David Sevier	583 - 584

Training Division (TCSMC—AT)

	2231

Facilities Division (TCSMC—AF)

/m. H. Diddlebock	2256 - 2268
eer—Mr. James B. Key	546
Br.—Mr. George Wolking	2256 - 2268
Miss Lucille Whitmore	2291
—Mr. Dave Wilkinson	2256

Personnel and Security Division (TCSMC—AI)

Clinton K. Jones	550
. Br.—Miss Marguerite J. Tapy	591 - 598
-Mrs. Mary Roberson	2231

ivilian Personnel Division (TCSMC—AC)

. Wayne Anderson	2206
Mr. Warren Necker	2212
iliz. Br.—Mr. Ray Sale	2277
ge Br.—Mr. James Garris	2270
e Br.—Miss Angela Rovira	2213
Mrs. Celeste Brewer	2479

ail and Records Division (TCSMC—AM)

ames Gallagher	2298
rds Br.—Mrs. Jynne Boggiano	556
age Br.—Mr. Charles Mosby	552
in. Br.—Mr. Frank DeVries	589

ng and Publications Division (TCSMC—AP)

ay January	585
ison Off.—Mr. Walter Shedlofsky	586
—Mr. Elwood E. Randol	544
ontrol—Mrs. Elsie Isgrig	883
Br.—Mr. Robert Ewing	2223
s Br.—Mr. Clarence Macchi	509
Supply Br.—Mr. O. V. Snyder	2293

rence and Research Division (TCSMC—AR)

eonard Cuchna	564
f. Br.—Mrs. Mabel Sarber	563
r.—Mrs. Margaret Honerkamp	882
Br.—Mrs. Marie Mitulski	863
esk	2207

E OF MATERIEL REQUIREMENTS

5th FLOOR

	EXT.
Robt. N. Crawford	653 - 655
tor—Mr. Geo. C. Dellapa	653 - 655

Administrative Office (TCSMC—QA)

oward D. Gurly	2574
rvices	685

Mission Support Division (TCSMC—QS)

Offices

hn L. King	667 - 663
Proj. Officer—Lt. Col. Wallace Austin	667 - 663
.—Mr. Edwin D. Wall, Jr.	662
elop—Mr. Elmer V. Compass	661 - 2448
s.—Mr. Arling Nygaard	596
t. &	
Sup. Spt.—Mr. Frank R. Granzow	880

rine Commodity Division (TCSMC—QM)

athan F. Ayer	640 - 2572

Offices

aft—Mr. Stephen Sulich	2571
on-Propelled Craft—Mr. George Findley	2571
ysis—Mr. Norbert Schenk	600

dity and General Supplies Division (TCSMC—QR)

—Mr. Lester C. Hawkinson	642

Offices

r—Mr. Frank Flash	659
—Mr. Lester Pott	2570
ysis	2570
plies—Mr. Harvey Miller	641 - 658

Aircraft Commodity Division

Chief—Mr. Jos. A. Moro	643 - 644
Plans & Policies Ofc.—Mr. Constantino Cueto	648

Project Offices

H-13—Mr. Jack Simpson	2568
H-23—Mr. Cornelius Faerber	2569
HU-1A—Mr. Theodore Oleson	656
H-19—Mr. Morie Fox	654
H-21—Mr. Adolph Koenig	525
H-34—Mr. Jerome Siesener	647
H-37—Mr. Norman Koslow	657
U-1A—Mr. Paul Sipe	615
L-19—Mr. Elvie E. Smith	646
L-20—Mr. Edwin L. Kackley	2566
L-23—Mr. Irvin Amsinger	2391
GFAE & Access—Mr. Paul Wright	650
Gen. Items—Mr. Ralph Normington	2565
MAP & Non-Std Acft—Mr. Kenneth A. Stephens	660
Basic Data—Mr. Victor Collier	2567
AO-1—Mr. James Morton	660
Tools & GHE—Capt. Charles E. Hall	2576
Test Aircraft—Maj. Hal P. Crane	645

DIRECTORATE OF CENTRALIZED DEPOT SUPPLY ACTIVITIES

(TCSMC—N) 5th FLOOR

	EXT.
Director—Col. Edw. L. Burchell	608 - 609
Deputy Director—Mr. Eric H. Petersen	608 - 609

Supply Systems Office (TCSMC—NU)

Chief—Mr. Frederic A. Gessner	2447

Operations Support Division (TCSMC—NO)

Chief—Mr. Alfred Wells	770
Procedures Br.—Mr. Marvin Dennis	678
Plans & Programs Br.—Mr. G. J. Monnig	727 - 505
Administrative Br.—Mr. John Cothran	673 - 675
Storage Technique Br.—Mr. Charles J. Cody	684

Inventory Accounting Division (TCSMC—NI)

Chief & Acct. Prop. Off.—Lt. Col. Rich. W. Aronson	689
Asst. Acct. Prop. Off.—Mr. Joseph Offutt	501 - 689
Inventory Recon. Br.—Mr. Ralph Wrigley	674
Financial Acct. Br.—Miss Viola Nienhaus	611
Incoming Inven. Br.—Mrs. Gwen Spearman	666
Excess Prop. Br.—Mr. Leo Reiss	669

Technical Edit Division (TCSMC—NT)

Chief—Mr. Fred Breece	728
Surface Br.—Mr. Norval Kreke	749
Airframe Br.—Miss Margaret Thaxton	748
Acrft. Engine and Tool Br.—Mr. Mathew Comer	2113
Acft. Bulk Items and Access. Br.—Mr. Edward Mossberger	2175

Supply Division (TCSMC—NS)

Chief—Mr. Charles Ludwig	677 - 408
Spec. Proj. & Contract Overhaul Br.—Mr. John B. Mattern	2193 - 668
Stock Mgt. Br. Stations	
1st Army	731
2nd Army—Mr. George Olliges	676
3rd Army—Mr. William Dick	730 - 737
Ft. Rucker—Mr. Robert Hager	503
4th Army—Mr. William Hewitt	733
4th Ech. Maint.—Mr. Charles Murphy	772
5th Army	736 - 502
6th Army—Mr. Richard Swindler	514
OSA NY & MASS—Mr. Donald Smith	734 - 2169
OSA NO—Mrs. Eva Tomlin	670 - 671
OSA SF	2176 - 2177
Research & Development Br.	772

Computer Input Division (TCSMC—NC)

Chief—Maj. James M. Kelly	
Pre-Edit & Proc. Br.—Mrs. Priscilla Mohr	632 - 514
Key Punch Br.—Mrs. Irene Willett	778
Services Br.—Mr. Samuel Layne	2380 - 768
NIGHT NUMBER	MAin 1-9534

DIRECTORATE OF PROCUREMENT & PRODUCTION

(TCSMC—P) 6th FLOOR

	EXT.
Director—Col. G. E. Van Tassel	603 - 604
Asst. to Director—Lt. Col. Rcbt. W. Larson	603 - 604
Deputy Director—Mr. Harold P. Ludwig	603 - 2189
Asst. to Dir. for ADP—Mr. Eugene J. Ehrhart	2472

ON SUPPLY AND MAINTENANCE COMMAND

LOUIS, MISSOURI MAIN 1-6426

E COMMANDER

OFFICE OF THE COMMAND INSPECTOR GENERAL

OFFICE OF THE COMPTROLLER

U. S. ARMY SIGNAL AVIONICS LIAISON OFFICE

UCTION

DIRECTORATE OF FIELD SERVICES

DIRECTORATE OF ENGINEERING

DIRECTORATE OF CATALOGING AND IDENTIFICATION

DIRECTORATE OF AUTOMATIC DATA PROCESSING

ommodity Division

643 - 644
Constantino Cueto 648
2568
2569
656
654
525
647
657
615
646
2566
2391
Wright 650
rmington 2565
Kenneth A. Stephens 660
lier 2567
660
s E. Hall 2576
Crane 645

LIZED DEPOT SUPPLY ACTIVITIES 5th FLOOR EXT.

chell 608 - 609
H. Petersen 608 - 609

s Office (TCSMC—NU)

ssner 2447

rt Division (TCSMC—NO)

770
Dennis 678
G. J. Monnig 727 - 505
n Cothran 673 - 675
Charles J. Cody 684

ing Division (TCSMC—NI)

t. Col. Rich. W. Aronson 689
Joseph Offutt 501 - 689
alph Wrigley 674
bia Nienhaus 611
Swen Spearman 666
eiss 669

Division (TCSMC—NT)

728
ke 749
Thaxton 748
-Mr. Mathew Comer 2113
dward Mossberger 2175

ion (TCSMC—NS)

677 - 408
B. Mattern 2193 - 668
731
Olliges 676
Dick 730 - 737
Hager 503
Hewitt 733
arles Murphy 772
736 - 502
Swindler 514
Donald Smith 734 - 2169
lin 670 - 671
2176 - 2177
772

Division (TCSMC—NC)

iscilla Mohr 632 - 514
illett 778
rne 2380 - 768
MAin 1-9534

ENT & PRODUCTION 6th FLOOR EXT.

sel 603 - 604
bt. W. Larson 603 - 604
P. Ludwig 603 - 2189
ugene J. Ehrhart 2472

Admin. Office

Chief—Maj. Wm. M. Dunn, Sr. 617 - 741
Plans & Programs Br.—Mr. John E. Phelps, Jr. 741 - 617
Admin. Control Br.—Mr. Harold Ruschmeyer 619
Document and Fund Control Br.—Miss Clara Nagel 2557

Small Business Office

Chief—Mr. Leonard H. Richman 688

IMP Office

Chief—Mr. John J. Mahon 601

Freight Traffic Advisory Office

Chief—Mr. Curtis S. Hunter 680

Cost Analysis Office

Chief 682

Air Division (Prov.)

Chief—Lt. Col. A. J. McDermott, Jr. 311

Airframe

Deputy Chief—Mr. John Hemlick 618
Contract Branch—Mr. Ira F. Lewis 316
Prod. and Qual. Control Br.—Mr. Martin West 475
Services Branch—Mr. Gerald G. Smolly 416

Aircraft Engine

Deputy Chief—Mr. Frederick Bierman 683
Contract Branch—Mr. Homer Drew 635
Prod. and Qual. Control Br.—Mr. Al C. Rowden 629
Services Branch—Miss Dorothy Sladek 726

Contract Maintenance Division

Chief—Maj. Harry O. Davis 651 - 626
Asst. to Chief 626
Deputy Chief—Mr. Erwin C. Fischer 626
Contract Branch—Mr. William G. Krenning 630
Prod. & Qual. Con. Br.
Executive for Prod.—Capt. Donald H. Jersey 625
Chief—Mr. Henry Balawajder 625
Services Branch—Mrs. Mathilda Gentle 489

General Procurement Division

Chief—Maj. Joseph A. Quinlan 746
Deputy Chief—Mr. Carl H. Essert 889
Contract Branch 622
Prod. and Qual. Control Br.—Mr. James Lamb 395
Services Branch—Mr. Olen F. Jones 691

DIRECTORATE OF FIELD SERVICES (TCSMC—F) 3rd FLOOR EXT.

Director—Lt. Col. Raymond R. Evers 2294 - 2295
Deputy Director—Mr. Wm. H. Keenan 2294 - 2295

Planning and Control Office (TCSMC—FP)

Chief—Mr. Leslie C. Trogdon 2222
Planning and
Special Projects Br.—Maj. William H. Pollard 2222
Programs and Budget Br.—Mrs. Juanita E. Hogue 2221
Administrative Services Br.—Mrs. Ada G. Prichard 403
Technical Editor—Mr. Wm. D. Bickham 888

Air Division (TCSMC—FA)

Chief—Maj. Thomas E. Hall 305
Deputy Chief—Mr. Walter M. Lorenz 305
Tech. Asst. & Ln. Br.—Mr. Lawrence J. Geppert 2220
Flight Operations Br.—Capt. Carl R. Anderson 309
Maint. Systems Br.—Mr. Paul L. Hendrickson 2287
Fld. Maint. Control Br.—Mr. Charles J. Prizzia 306
Depot Maint. Control Br.—Mr. Gilbert Settle 302

Rail Division (TCSMC—FR)

Chief—Mr. John Quinn 2296
Interchange Rail Eqp. Maint. Br.—Mr. Francis Henry 2271
Utility Rail Equip. Maint. Br.—Mr. Edward E. Caron 301
Tech. Asst. & Ln. Br.—Mr. Jewell C. Christenson 887

Marine Division (TCSMC—FM)

Chief—Mr. William Lyman 2281
Tech. Asst. & Ln. Br.—Mr. Thomas Watson 2286
Operations Br.—Mr. John C. Kiehl 2272

DIRECTORATE OF ENGINEERING (TCSMC—E) 4th FLOOR EXT.

Director—Col. John W. Koletty 569 - 570
Deputy Director—Mr. Howard Wilson 569 - 570
Exec. for Air—Lt. Col. Cyril D. Stapleton 750
Exec. for Surface—Mr. Michael Kelvin 740
Mission Support Office (EI)—Lt. Col. Frank W. Gorham 543
Plans & Prog. Br.—Mr. Ray T. Holland 762
Maint. Policy Br.—Mr. M. F. Busiere 2476
ECP Recorder 515
Tech. Pub. Br.—Mr. Edwin B. Murphy 576
Admin. Br.—Mrs. Mary Jane Klerlein 575
Auto Data Sys. Br.—Mr. John Greenwell 2459

Development Division

Power Plant & Power Transmission Sys. Br.
Airframe Br.
Aircraft Systems Br.
Evaluation & Analytical Study Br.

Project Offices

Aircraft
H-13 (EH-13)—Mr. Mathew M. Grdnic 578
H-19 (EH-19)—Mr. George A. Trogolo 2181
H-21 (EH-21)—Mr. Sid A. Austin 2389
H-23 (EH-23)—Mr. Harry Murphy 2398
H-34 (EH-34)—Mr. Arthur L. Nelson 2182
H-37 (EH-37)—Mr. Joseph G. Ambrose 549
HU-1A (EHU-1A)—Mr. James M. Ackerley 2397
L-19 (EL-19)—Mr. Loy D. Lingle 2393
L-20 (EL-20)—Mr. Earl A. Ragg 2394
L-23 (EL-23)—Mr. John C. Swann 595
U-1A (EU-1A)—Mr. Ralph C. Cropp 2396
Non-Std. (EN)—Mr. George W. Harrison 577
Test (EE)—Mr. Carl Stephenson 581 - 582
Marine & Sp. Eq. (EMQ)—Mr. Wayne Romig 574
Non-Prop. Br.—Mr. Carl Steiling 565
Self-Prop. Br.—Mr. Harry Offield 755
Sp. Eq. Br.—Mr. George Flowers 756
Rail (ER)—Mr. Ralph Craine 568
General Items (EG)—Mr. Leonard F. Hynie 2474
Packaging (ESM)—Mr. Donald L. Kent 566 - 567
Tools (ET)—Mr. Leonard E. Bartley 594

DIRECTORATE OF CATALOGING & IDENTIFICATION (TCSMC—M) 7th FLOOR EXT.

Director—Lt. Col. Clarence E. Jeffress 2376 - 2377
Deputy Director—Mr. Wayne R. Smith 2376 - 2377

Planning and Administrative Office (TCSMC—MP)

Acting Chief—Mr. F. J. Perrings 2381
Adm. Services 2382

Cataloging Division (TCSMC—MC)

Chief—Mr. Norfleet W. Rives 558 - 559
Air Br.—Mr. M. J. Baumgartner 592
Surface Br.—Mr. Dale R. Borland 562
General Supplies Br.—Mr. Howard Forbes 664
Manuscript Br.—Mr. L. R. Grandidier 2375

Identification Division (TCSMC—MI)

Chief—Mr. Charles Gardner 2179
Airframe Br.—Mr. Leon Clark 2191
Engine, Tools and Surface Br.—Mr. Harold Wilson 2192
Accessories Br.—Mr. Millard J. Tomlin 732
Bulk & Common Items Br.—Mr. Roy F. Quinn 545

DIRECTORATE OF AUTOMATIC DATA PROCESSING (TCSMC—Z) 4th FLOOR EXT.

Director—Lt. Col. Wallace R. Elliott, Jr. 2274
Deputy Director—Mr. Robert L. James 2274 - 2275

Systems Development Division (TCSMC—ZS)

Chief—Mr. Ellsworth Seitz 2278
Field Liaison Br.—Mr. James L. Cooper 2478

705 Representatives

CDSA—Mr. Fred A. Gessner 2447
Cat. & Ident.—Mr. Ed L. Wania 681 - 2375
Compt.—Miss Mary J. Dorsey 2491 - 2235
FIA, Mat. Rqr.—Mr. Elmer V. Compass 661 - 2248
Proc. & Prod.—Mr. Eugene Ehrhart 2472
Engr.—Mr. John Greenwell 2459
Provisioning—Mr. Elmer V. Compass 2448
IBM Rep.—Mr. Malcolm Wheeler 2458

Administrative Office (TCSMC—ZA)

Chief—Miss Malvina C. Guzy 639 - 760
Supply Room—Mr. D. Davis 694

Data Processing Division (TCSMC—ZM)

Chief—Mr. George Moore 693 - 638
Shift Supervisor—Mr. Carl Pitti 693 - 638
Statistical & File Maint. Br.—Mrs. Virginia Fach 761
Tabulating Equip. Br.—Mrs. Bernice Gibson 693 - 638
Card Punch & Verification Br.—Mrs. Sylvia Liley 777 - 606
Digital Computer Machine Br.—Mrs. Mary Kessler 2246

Review and Control Division

Programming and Planning Division (TCSMC—ZP)

Chief—Mr. John Sperla 776 - 775
Nights and Weekends MA 1-8994

An Invitation

TO DO

BUSINESS WITH USATSMC

I should like to invite DATA readers to join the Army-Industry Defense Team as prime or subcontractors to the U. S. Army Transportation Supply and Maintenance Command. We spend some $200 million annually to support the Army's global aviation, railroad and marine programs. It is a vital defense mission, achievement of which requires close cooperation and planning between Army and Industry.

WILLIAM B. BUNKER,
Brigadier General, USA
Commanding

BRIGADIER GENERAL WILLIAM B. BUNKER
Commanding, USATSMC

Brig. Gen. William B. Bunker assumed command of USATSMC in October 1955.

A graduate of West Point and Massachusetts Institute of Technology, he is a recognized authority on transportation logistics, particularly aviation. His service includes: Chief, Nicaraguan Canal Survey; Deputy in charge of TC supply program in World War II; Chief of State Department transportation survey in Paraguay; Chief, Terminal Operations, Berlin Airlift; organizer of similar service between Japan and Korea. His study of helicopter transportation applications resulted in present large-scale Army program. Recipient of numerous awards, he was formerly Commandant, U. S. Army Transportation School, Fort Eustis, Va.

BRIEFLY TSMC

TSMC is the logistical management command for Army Transportation. It has responsibility for supply and maintenance support of Army's aviation, railroad, and marine programs. TSMC budgets, and computes requirements for all supply support. It develops and publishes maintenance requirements. It is responsible for depot stockage and distribution of parts. TSMC does the following:

Issues Military Interdepartmental Purchase Requests —MIPR's—to Air Force for aircraft—to Navy for marine end items—tugs, barges, harbor craft.

Directly procures secondary air items, including accessories, components, repair parts, special maintenance tools, ground handling equipment, concurrent repair parts, certain electronic equipment.

Procures, maintains, supplies rail equipment for Army, Navy, Air Force. Handles supply and maintenance of all Army marine equipment.

Has technical supervision, command, staff guidance over 13 field installations and operations, involving depot and storage activities, marine liaison offices, an aircraft model shop, test and support center for aircraft, three mobile rail shops.

Has responsibility for four national control points, all in St. Louis Headquarters: National Inventory Control Point, National Procurement, National Maintenance Point, National Depot Operations Point.

Has some 2,400 civilian employees in Headquarters, 1,500 in field, 250 officers in the command. Is organized under the directorate system. Is a functional organization, with a further break-out by commodity.

Operations resemble a mail order house. Most modern business methods are used . . . Electronic computors used in stock control give nearest to push-button supply system TC has had, cuts stock on hand, speeds deliveries to users.

As inventory manager for TC, spends upwards of $200 million annually to support vital programs. Is growing constantly in scope of responsibilities.

THE ARMY BUYS

HERE'S HOW THE ARMY BUYS ITS TRANSPORTATION CORPS EQUIPMENT

by

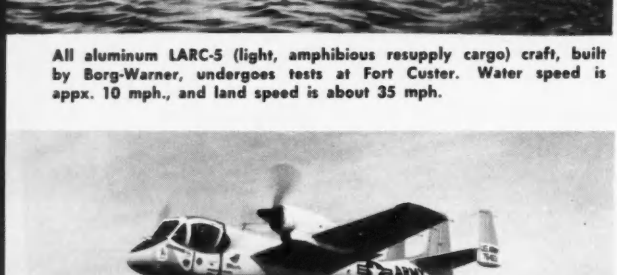
J. K. GERDEL

Spec. Asst. to C. G.
USA TSMC

LAST YEAR the Army alone spent well in excess of $200 million for rail, marine and aviation transportation equipment and its support. This does not include the cost of procurement of transportation, which is the responsibility of the *Military Traffic Management Agency*, but only the cost of surface and air equipment and supporting hardware in the form of space and repair parts, tools and test and ground handling equipment. It also does not include automobiles, trucks, and other administrative vehicles that are the responsibility of

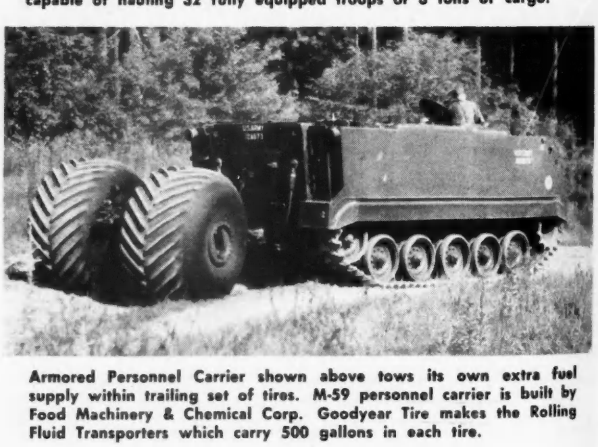
Bell HU-1A IROQUOIS is Army Turbine powered utility helicopter of compact of low silhouette design. HU-1A has crusing speed of 100 knots and range of 200 nautical miles.

All aluminum LARC-5 (light, amphibious resupply cargo) craft, built by Borg-Warner, undergoes tests at Fort Custer. Water speed is appx. 10 mph., and land speed is about 35 mph.



Army's new two-place prop-jet observation airplane, Grumman-built YAO-1 MOHAWK, is pictured here in recent test flight. Featuring 59-knot stall speed, MOHAWK has relatively short take-off and landing capabilities.

DeHavilland AC-1 CARIBOU is Army's latest cargo aircraft and is capable of hauling 32 fully equipped troops or 3 tons of cargo.



Armored Personnel Carrier shown above tows its own extra fuel supply within trailing set of tires. M-59 personnel carrier is built by Food Machinery & Chemical Corp. Goodyear Tire makes the Rolling Fluid Transporters which carry 500 gallons in each tire.

TRANSPORTATION EQUIPMENT

the *Chief of Ordnance,* material handling equipment that are the responsibility of the *Quartermaster General* nor road, river and dock construction equipment that are the responsibility of the *Chief of Engineers.*

General policy governing procurement of transportation equipment in its narrow sense of rail, marine and Army aviation items is established by the *Chief of Transportation,* but all actual procurement is controlled by the *U. S. Army Transportation Supply and Maintenance Command* which centrally procures most of this equipment. Local procurement authority is delegated by this Command to a number of sub-commands and agency type activities, the total structure forming a chain of integrated procurement activities throughout the United States.

The *Chief of Transportation of the U. S. Army* has logistical responsibility for Army aviation equipment, for marine equipment utilized by the Army, for rail equipment used by all of the military departments and for general supplies pertinent to all types of transportation equipment. Responsibility for procurement, supply and maintenance of transportation equipment has been delegated by the *Chief of Transportation* to the *Commander of the United States Army Transportation Supply and Maintenance Command* located at 12th & Spruce Streets, St. Louis, Missouri. In this Command are combined a national inventory control point, a national maintenance engineering point, a national centralized depot supply point and a national procurement point. The organizational elements which perform these functions are respectively designated as the *Directorate of Materiel Requirements, the Directorate of Engineering, the Directorate of Centralized Depot Supply Activity* and *the Directorate of Procurement and Production.*

The pattern of procurement by this organization is influenced not only by requirements for transportation equipment and for support of transportation equipment, but also by various peculiarities of single service managership and plant cognizance which exist within the Department of Defense. For instance, at the present time all airframes and engines for Army aircraft are procured by this Command on military interdepartmental purchase requests to the Air Force or the Navy depending upon which has cognizance of the plant in which the airframe or engine is to be produced. On the other hand, the *Transportation Supply and Maintenance Command* directly procures accessories, repair parts, tools and test and ground handling equipment from any and all manufacturers producing such equipment whether or not they are under plant cognizance by one of the other departments.

A similar situation exists in the procurement of marine equipment which is placed on military interdepartmental purchase request to the Navy and supported to a large extent by the Army-Navy spare parts agreement which requires little direct procurement in this area by the *Transportation Supply and Maintenance Command.* However, general supplies in support of marine equipment, as well as rail and aviation equipment, are directly procured by this Command.

The Transportation Supply and Maintenance Command directly procures all rail end items and supporting equipment for all agencies of the Department of Defense.

The usual cycle of procurement begins with a procurement specification or purchase description developed by the *Directorate of Engineering.* To this is added the determination of the *Director of Materiel Requirements* as to how many items are required. The *Comptroller* allots funds for procurement purposes and actual procurement is effected by contracting officers in the *Directorate of Procurement and Production.* Within the *Directorate of Procurement and Production* is a small business office which sees to the interest of the small business contractors. In addition, the *Directorate of Procurement and Production* also includes a contract maintenance group primarily concerned with placing contracts for overhaul of all types of transportation equipment and components of such equipment.

During fiscal year 1959 this command procured $94 million worth of aviation end items and some $3 million worth of marine items. In addition, it procured approximately $55 million worth of repair parts and other supporting equipment for aviation items and something in excess of $5 million in general supplies. Since the Command accomplishes its overhaul mission almost entirely through contractual services, approximately $16 million was spent in this area, of which 95% was in support of aviation equipment.

While most procurement is performed directly by the headquarters of the Command located in St. Louis, Missouri, local procurement of marine type items is also accomplished by storage activities located at Charleston, South Carolina; Rio Vista, California; Beaver, Washington and Delta, Louisiana. Local procurement of rail items is accomplished at Hollabird, Pennsylvania, and local procurement of aviation items is accomplished by Transportation supply sections and fourth echelon maintenance shops located in Quartermaster General Depots at New Cumberland, Pennsylvania; Atlanta, Georgia; Fort Worth, Texas and Sharpe, California. These facilities also procure local contractual services as necessary.

WHAT TSMC BUYS

AIR (Airframe)

End Item Currently Purchased by TC

Aircraft, AC-1 (Caribou)*.....DeHavilland Twin Engine A/C
Aircraft, AO-1 (Mohawk)*.....Grumman Twin Engine A/C
Aircraft, H-13 (Sioux)*.....Bell Helicopter
Aircraft, H-19 (Chickasaw)*.....Sikorsky Helicopter
Aircraft, H-21 (Shawnee)*.....Vertol Helicopter
Aircraft, H-23 (Raven)*.....Hiller Helicopter
Aircraft, H-34 (Choctaw)*.....Sikorsky Helicopter
Aircraft, H-37 (Mojave)*.....Sikorsky Helicopter
Aircraft, HC-1 (Chinook)*.....Vertol Helicopter
Aircraft, HU-1 (Iroquois)*.....Bell Helicopter
Aircraft, L-19 (Bird Dog)*.....Cessna Single Engine A/C
Aircraft, L-20 (Beaver)*.....DeHavilland Single Engine A/C
Aircraft, L-23 (Seminole)*.....Beech Twin Engine A/C
Aircraft, U-1A (Otter)*.....DeHavilland Single Engine A/C

* Purchased by Military Interdepartmental Purchase Request through Air Force or Navy.

Major Components (Assemblies or Materials) Currently Purchased by TC

Transmissions
Main Rotor Blades
Wing Assemblies
Propellers
Tail Rotor Blades
Main Strut Assemblies
Servo Assemblies
Damper Assemblies
Shaft Rotor Drives
Generators
Fuselage Assemblies
Clutch Actuators
Rotor Hub Assemblies
Prop Hub Assemblies
Landing Gear Assemblies
Tail Booms
Gear Boxes
Instruments

AIR (Engine)

End Items Currently Purchased by TC

Engines, Aircraft, Turbine* and Parts
Engines, Aircraft, Reciprocating* and Parts
Engines, Aircraft, Aircooled, Reciprocating* and Parts

* Basic Engines are Purchased by Military Interdepartmental Purchase Request through Air Force or Navy.

GENERAL SUPPLY

End Items Currently Purchased by TC

Blocks, Tackle, Rigging and Slings
Miscellaneous Handling Equipment (Skids, Pallets, etc.)
Chain and Wire Rope
Fittings for Rope, Cable and Chain
Special Shop Tools
Vehicular Lights (Marine, Rail and Air)
Engine Instruments (Gages, Indicators)
Boxes, Metal Shipping

Major Components (Assemblies or Materials) Currently Purchased by TC

Aircraft Electrical Equipment & Maintenance Parts
Aircraft Carburetors and Maintenance Parts
Aircraft Ignition System Accessories and Maintenance Parts
Aircraft Fuel, Hydraulic, Vacuum, Oil and De-Icer Systems, Accessories, and Maintenance Parts
Miscellaneous Aircraft Engine Accessories and Maintenance Parts
Rubber Materials
Antifriction Bearings and Maintenance Parts
Engine Specialized Tools and Equipment
Airframe and Propeller Specialized Tools and Equipment
Armament and Communications Specialized Tools and Equipment
Miscellaneous Specialized Tools and Equipment
Flying Field and Hangar Equipment
Metals, Ferrous and Nonferrous
Packaging Materials

MARINE

End Items Currently Purchased by TC

Lighters, Amphibious
Line Throwing Guns
Barge mounted Cranes
Small Craft (under $1,000.00)
Winches, Hoists, Cranes, Derricks
Lifesaving Equipment (Rafts, Deflatable Vests)
Navigational Instruments

Major Components Currently Purchased by TC

Ship and Boat Propulsion Items (Shafts, Propellers, Transmissions, Gears, etc.)
Deck Machinery (Steering Gears, Davits)
Hardware and Hull Items (Anchors, Grapnels, Fenders, Oars, etc.)
Miscellaneous Equipment (Ladders, Gang Planks, etc.)
Diesel Engines
Bearings
Pumps and Compressors
Shipboard Alarm and Signal Systems

RAIL

End Items Currently Purchased by TC

Locomotives, Diesel Electric*
Rail Cars, Non-Self-Propelled, All Types*
Railway Cars, Self-Propelled (Car-Spotters, Maintenance Cars, Snow-Removers, etc.*)
Railroad Transportation Equipment Parts
Locomotive Cranes*

* Repair Parts are purchased as required.

Major Components Currently Purchased by TC

All assemblies or components necessary for continuous operation of equipment (Axles, Bearings, Brake Sets, Compressors, Gears, Generators, Pumps, etc.).

PARTNERS in PROGRESS

Its long association with the U.S. Army has established Fairchild as an imaginative organization with the ability to successfully complete varied vital assignments. Projects under way for the Army include a sophisticated and versatile surveillance drone system, the USD-5, research and development work on high flotation landing gear, and projects involving VTOL and STOL aircraft.

The advanced research and development now being performed at Fairchild is contributing to the efficiency and flexibility of the U.S. Army. This continuing program is designed to keep pace with the changing requirements of the Army . . . is dedicated to the creation of new systems and hardware . . . to the improvement of existing equipment.

FAIRCHILD

AIRCRAFT AND MISSILES DIVISION • HAGERSTOWN, MARYLAND

U. S. ARMY TRANSP

RESEARCH, DEVELOPMENT AND

CHIEF OF

DEPUTY CH

Maj. Gen. Ru
Lincoln, Jr

PROCUREMENT

PROCUREMENT
ITEMS OF INTEREST

AIR ★
- FIXED WING AIRCRAFT (5,000 lb. net weight limitation)
- OBSERVATION, UTILITY, COMMAND AND CARGO HELICOPTERS (20,000 lb. net weight limitation)
- RECONNAISSANCE, UTILITY, LIGHT AND MEDIUM CARGO TYPES.
- REPAIR PARTS FOR ABOVE.

AMPHIBIOUS
- BARC (Barge, amphibious, resupply, cargo)
- LARC (Lighter, amphibious, resupply, cargo)

MARINE ○
- BARGES.
- HARBOR CRAFT.
- INLAND WATERWAY CRAFT.
- MAINTENANCE FACILITIES.
- POWER PLANTS.
- TUGS.
- SAFETY EQUIPMENT.

RAIL ●
- MOTIVE POWER (Standard and multi-gage)
- ROLLING STOCK (Standard and multi-gage)
- REPAIR PARTS

OTHER
- RE-USEABLE SHIPPING CONTAINERS.

ASST. CHIEF FOR MATERIEL
Col. Barclay T. Resler
PROVIDES TIMELY AND ADEQUATE MATERIEL SUPPORT THRU SUPERVISION OVER MATERIEL STANDARDIZATION, PROCUREMENT, PRODUCTION, SUPPLY DISTRIBUTION, MAINTENANCE AND INDUSTRIAL MOBILIZATION ACTIVITIES.

SUPPLY AND REQUIREMENTS DIVISION
DEVELOPS AND DISSEMINATES GUIDANCE AND POLICY PERTAINING TO SUPPLY AND EQUIPMENT REQUIREMENTS FOR AIR, AMPHIBIOUS, MARINE, RAIL AND OTHER ITEMS.

PROCUREMENT DIVISION
COORDINATES AND DISSEMINATES GUIDANCE AND POLICY FOR PROCUREMENT AND PRODUCTION OF TRANSPORTATION CORPS ITEMS OF SUPPLY. AUTHORIZES PROCUREMENT OF END ITEMS AND CONCURRENT REPAIR PARTS.

MAINTENANCE DIVISION
COORDINATES AND DISSEMINATES GUIDANCE AND POLICY FOR MAINTENANCE OF TRANSPORTATION CORPS ITEMS OF EQUIPMENT, INCLUDING AIR, AMPHIBIOUS, MARINE, RAIL AND OTHER ITEMS.

PURCHASING AND CONTRACTING

MAINTENANCE

PROGRAM DIRECTION FOR MISSION ACCOMPLISHMENT

REQUIREMENTS

TRANSPORTATION SUPPLY AND MAINTENANCE COMMAND
St. Louis, Mo.
Brig. Gen. Wm. B. Bunker
SERVES AS SUPPLY MANAGER AND NATIONAL INVENTORY CONTROL POINT FOR ALL TRANSPORTATION CORPS SUPPLIES AND EQUIPMENT. RESPONSIBLE FOR DESIGN, DEVELOPMENT, ENGINEERING, ENGINEERING AND LOGISTICAL TESTS, PROCUREMENT, AND SUPPLY SUPPORT OF ALL TC EQUIPMENT EXCEPT SURFACE ITEMS NOT TYPE CLASSIFIED WHICH ARE SCHEDULED FOR INTRODUCTION INTO THE INVENTORY.

AIR FORCE

NAVY

INDUSTRY

PORTATION CORPS
ND PROCUREMENT ACTIVITIES

Maj. Gen. F. S. Besson, Jr.

TRANSPORTATION

UTY CHIEF

Gen. Rush B.
coln, Jr.

DEPUTY CHIEF
FOR AVIATION

Brig. Gen. Richard
D. Meyer

RESEARCH AND DEVELOPMENT

ASST. CHIEF
(R & D)
Col. David B. Parker

DIRECTS RESEARCH AND DEVELOPMENT PROGRAM CONCERNED WITH RAIL, MARINE, AIR, HIGHWAY, TERMINAL, AND OTHER EQUIPMENT FOR THE FUTURE USE OF THE U. S. ARMY. RESPONSIBLE FOR CONFIGURATION CONTROL OF MILITARY EQUIPMENT WHICH INCLUDES ALL ASPECTS OF ENGINEERING.

● PROCURED ALSO FOR NAVY AND AIR FORCE.
○ PROCURED THRU NAVY.
★ PROCURED THRU NAVY OR AIR FORCE.

PROGRAM DIRECTION AND TECHNICAL SUPERVISION FOR MISSION ACCOMPLISHMENT

TRANSPORTATION
RESEARCH & ENGINEERING
COMMAND
Fort Eustis, Va.
Col. Vancel R. Beck

PERFORMS BASIC AND APPLIED RESEARCH IN THE AIR AND SURFACE AREAS OF TRANSPORTATION CORPS RESPONSIBILITY. PROCURES AND TESTS ITEMS SUCH AS TEST BED VEHICLES CONSTRUCTED FOR VERIFICATION OF THEORY AND IN SUPPORT OF ENGINEERING INVESTIGATIONS. HAS RESPONSIBILITY FOR THE DEVELOPMENT OF SURFACE ITEMS OF TC EQUIPMENT TO POINT OF TYPE CLASSIFICATION.

ENGINEERING
TESTS
HOUGHTON, MICH.
FT EUSTIS, VA.

RESEARCH &
DEVELOPMENT
INDUSTRY
AIR FORCE
NAVY

R & D ITEMS OF INTEREST

AIRCRAFT (Fixed wing and helicopters)★
- AIRCRAFT ACCESSORY EQUIPMENT AND SYSTEMS.
- AIRCRAFT COMPONENTS.
- AIRCRAFT POWER PLANTS.
- AIRFRAMES AND CONFIGURATIONS.
- FLYING CRANE HELICOPTERS.
- INDIVIDUAL LIFT DEVICES.
- AIRCRAFT SUPPORT AND SAFETY EQUIPMENT.
- VTOL/STOL AIRCRAFT.

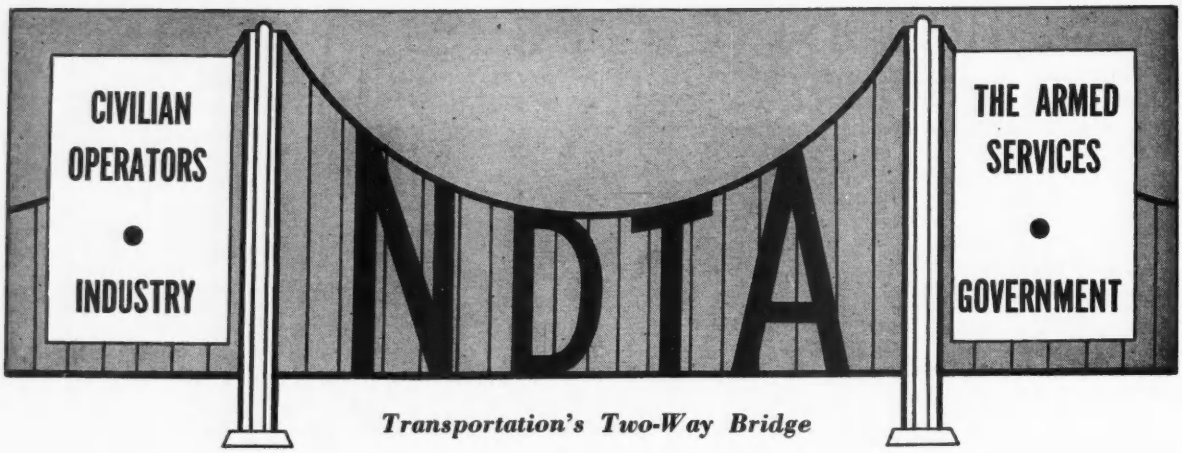
MARINE ○
- AMPHIBIANS
- BARGES.
- HARBOR CRAFT.
- INLAND WATERWAY CRAFT.
- MAINTENANCE FACILITIES.
- POWER PLANTS.
- TUGS.
- SAFETY EQUIPMENT.

MATERIALS AND GENERAL STUDIES
- LIGHTWEIGHT SHIPPING CONTAINERS.
- STRUCTURAL MATERIALS FOR AIRCRAFT, MARINE, RAIL AND TERMINAL EQUIPMENT FABRICATION.
- APPLICATION OF NUCLEAR POWER TO TRANSPORTATION EQUIPMENT.
- PROPULSION SYSTEMS
- MOBILITY RESEARCH
- AIR CUSHION VEHICLES

MOTOR TRANSPORT
- COMMUNICATIONS SYSTEMS.
- OFF ROAD VEHICLES.
- TRACTORS.
- TRAILERS.

RAIL
- COMMUNICATIONS.
- MAINTENANCE OF WAY EQUIPMENT.
- MOTIVE POWER (Standard and mult-gage).
- ROLLING STOCK (Standard and mult-gage).
- SIGNAL SYSTEMS (Military characteristics).

TERMINAL OPERATIONS
- CARGO CONTAINERS.
- FORK LIFTS (Military characteristics).
- RADICAL METHODS OF CARGO OPERATIONS.
- CARGO HANDLING SYSTEMS.



Transportation's Two-Way Bridge

Your sales volume can be increased in the field of the NATIONAL DEFENSE TRANSPORTATION JOURNAL.

The interests and influence of the JOURNAL civilian readers and the added force of the multi-million-dollar Government and National Defense market can be translated into sales-pulling power through our advertising columns.

The JOURNAL penetrates important private industry, Government Agencies, and the Armed Forces, reaching markets that require thousands of manufactured products and employ all vehicles of transportation.

Our civilian and military readers influence purchases of products, equipment, supplies and services for all branches of Government and National Defense. Further, they cooperate and work together in organized Chapters in the USA and abroad *where their official publication* is the NATIONAL DEFENSE TRANSPORTATION JOURNAL.

Industry and Commerce represented on our circulation statement spend billions each year for manufactured products. The major trucking industries along with over one million power units and a gross income of more than $5 billion spend half of it for vehicles, parts, tires, fuel, tools and shop equipment. Add to this the expenditure of Railroads . . . Airlines . . . Bus Companies . . . Ship Lines . . . Docks . . . Terminals . . . Inland Waterways . . . Contractors . . . Repair Companies . . . Ship Yards . . . Manufacturers . . . and you begin to grasp the volume of business. *Executives who count most read the Journal.*

The biggest customer—Government and National Defense—must be considered by itself. It buys from almost every major industry . . . anything that is sold . . . and is the largest shipper. The freight bill of the Department of Defense is estimated at $2 billions annually.

That huge part of the Government and National Defense market related to transportation added to the market of Industry and Commerce, a major part of which is transportation, provides you with a market where potential sales are great. You can reach this market most effectively through the NATIONAL DEFENSE TRANSPORTATION JOURNAL.

NO OTHER BUSINESS PUBLICATION PENETRATES THE TRANSPORTATION FIELD IN THE EFFECTIVE HORIZONTAL MANNER OF THE NATIONAL DEFENSE TRANSPORTATION JOURNAL.

Address Inquiries:

NATIONAL DEFENSE TRANSPORTATION JOURNAL

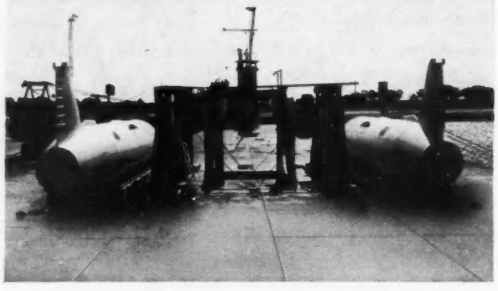
1612 K Street, Northwest
Washington 6, D. C.

TSMC CONTRACTORS

Aero Design Company.....Bethany, Oklahoma
Aerosonic Instrument Corp......Clearwater, Florida
Aircraft Products Company
Tactair Valve Co......King Manor, Bridgeport, Pa.
Aircooled Motors, Inc.....Liverpool Rd., Syracuse 8, N.Y.
Airpath Instrument Co......St. Louis, Missouri
American Machine & Metal
U. S. Division.....Sellersville, Pennsylvania
Avien, Inc. (gauges, indicators)..5815 Northern Blvd., Woodwide 77, N.Y.
Bendix Aviation Corp.
Utica Division.....Utica, New York
Borg-Warner Corp.
Pesco Products Division.....Bedford, Ohio
Canadian Pratt & Whitney Aircraft, Ltd.
Montreal, Canada.....Montreal, Quebec, Canada
Cleveland Pneumatic Tool
Co......3781 E. 77th St., Cleveland 5, Ohio
Continental Motors, Corp......205 Market St., Muskegon 82, Michigan
Curtiss-Wright Corp......Wood-Ridge, New Jersey
De Havilland Aircraft.....Quebec, Canada
Doman Helicopters, Inc......P.O. Box 603, Danbury, Connecticut
Electronic Communications, Inc.
Air Associates Division.....Chicago, Illinois
Koehler Aircraft Products Co......Dayton, Ohio
Lear, Inc.
Lear-Romec Division..1400 Albee Rd., Elyria, Ohio
Lewis Engineering.....Nangatuck, Connecticut
Piper Aircraft.....Lock Haven ,Connecticut
Action Manufacturing.....Philadelphia, Pennsylvania
Aero Corporation.....Atlanta, Georgia
Aerodix Corporation.....Miami, Florida
Airborne Accessories, Inc......Hillside, New Jersey
Airepair, Inc......N. Hollywood, California
Air-Mod Corporation.....Vandalia, Ohio
Air News, Inc......San Antonio, Texas
Alaska Airlines, Inc......Everett, Washington
American Airmotive Corporation.....Miami, Florida
Arkansas Chemical Corporation.....Baltimore, Maryland
Associated Naval Architects.....W. Norfolk, Virginia
Bacon Corporation.....Santa Monica, California
Barbour Boat.....New Barn, North Carolina
Beiser Aviation Corporation.....Tucson, Arizona
Big State Industries, Inc......Mineral Wells, Texas
Canadian Commercial Corporation....Washington, D. C.
Canadian Pratt &
Whitney.....Longueuil, Montreal, Quebec, Canada
Carter Aviation.....Richmond, Virginia
Cooper Accessories & Propeller Repair.....Dallas, Texas
Darby Corporation.....Kansas City, Kansas
Design Service
Drexel Engr......Philadelphia, Pennsylvania
Duschak Helicopter Rotor Service....Torrance, California
East Coast Aviation Corp......Lexington, Massachusetts
Grand Central Aircraft Company....Glendale, California
Hawthorne Flying Service....Charleston, South Carolina
Helicopter International.....St. Petersburg, Florida
Helio Aircraft Corporation.....Pittsburg, Kansas
Howard Aero.....San Antonio, Texas
Industrial Engineers.....Philadelphia, Pennsylvania
Intercontinental Manufacturing
Co., Inc......Garland, Texas
Janrick Aircraft Company.....Arlington, Washington
Karnish.....Lockhaven, Pennsylvania
Land-Air, Inc......Cheyenne, Wyoming
Lawrence Aviation Industries,
Inc......Long Island, New York
Ledkote Products Company
(Div. of Lawrence Aviation Industries, Inc.)
Marvel Manufacturing.....Washington, D. C.
Northwestern Aero.....St. Paul, Minnesota
NASCO Service Corporation.....Miami, Florida
ORO Manufacturing Company.....Adrian, Michigan
Ordnance Weapons Command
Rock Island Arsenal.....Rock Island, Illinois
Pacific Helicopter Service, Inc...Santa Monica, California
Parsons Corporation.....Stockton, California
Piasecki Aircraft Corp......Philadelphia, Pennsylvania
Plymton International.....St. Petersburg, Florida
Remmert-Werner, Inc......St. Louis, Missouri
Skymotive, Inc......Chicago, Illinois
Sky Service, Inc......Oklahoma City, Oklahoma
Southern Airways Company.....Atlanta, Georgia
Test & Development Division
Southern Airways.....Fort Rucker, Alabama
Southern Aviation.....Shreveport, Louisiana
Southern Ship
Spartan Aircraft.....Tulsa, Oklahoma
Taylorcraft, Inc......Connellsville, Pennsylvania
United Airplane Sales
Wallace Airmotive.....Spokane, Washington
Watervliet Arsenal.....Watervliet, New York
Westinghouse Electric Corp......5049 Fyler, St. Louis, Mo.
Universal Aircraft.....Denver, Colorado
Minnesota Aero Motive.....Minneapolis, Minnesota
Minnesota Engineering.....Minneapolis, Minnesota

MISSILES
move by water

42' 5" U. S. AIR FORCE GIANTS SHIPPED BY SEAGOING BARGE



Over 60 Years' Experience . . . a whole modern fleet of barges, scows and floating equipment for every requirement . . . at your service from Florida to Maine, on the Great Lakes, Inland Waterways and St. Lawrence Seaway. Prompt attention to your inquiries.

From The Martin Company plant in Baltimore HUGHES has carried two 7-ton Guided Missiles by the Coastal route to Port Canaveral, Florida. Riding special deck cradles on one of the latest 160' steel barges, this highly important cargo made the 835-mile deep water passage around Cape Hatteras in 4 days . . . final test on the effective resistance of the Missiles' protective coatings to the action of ocean spray.

For major economies in shipping products in bulk, for handling fabrications too weighty or bulky for road or rail . . . for movement of Contractors' heavy equipment and supplies, *Water Transportation by* HUGHES is the ready answer.

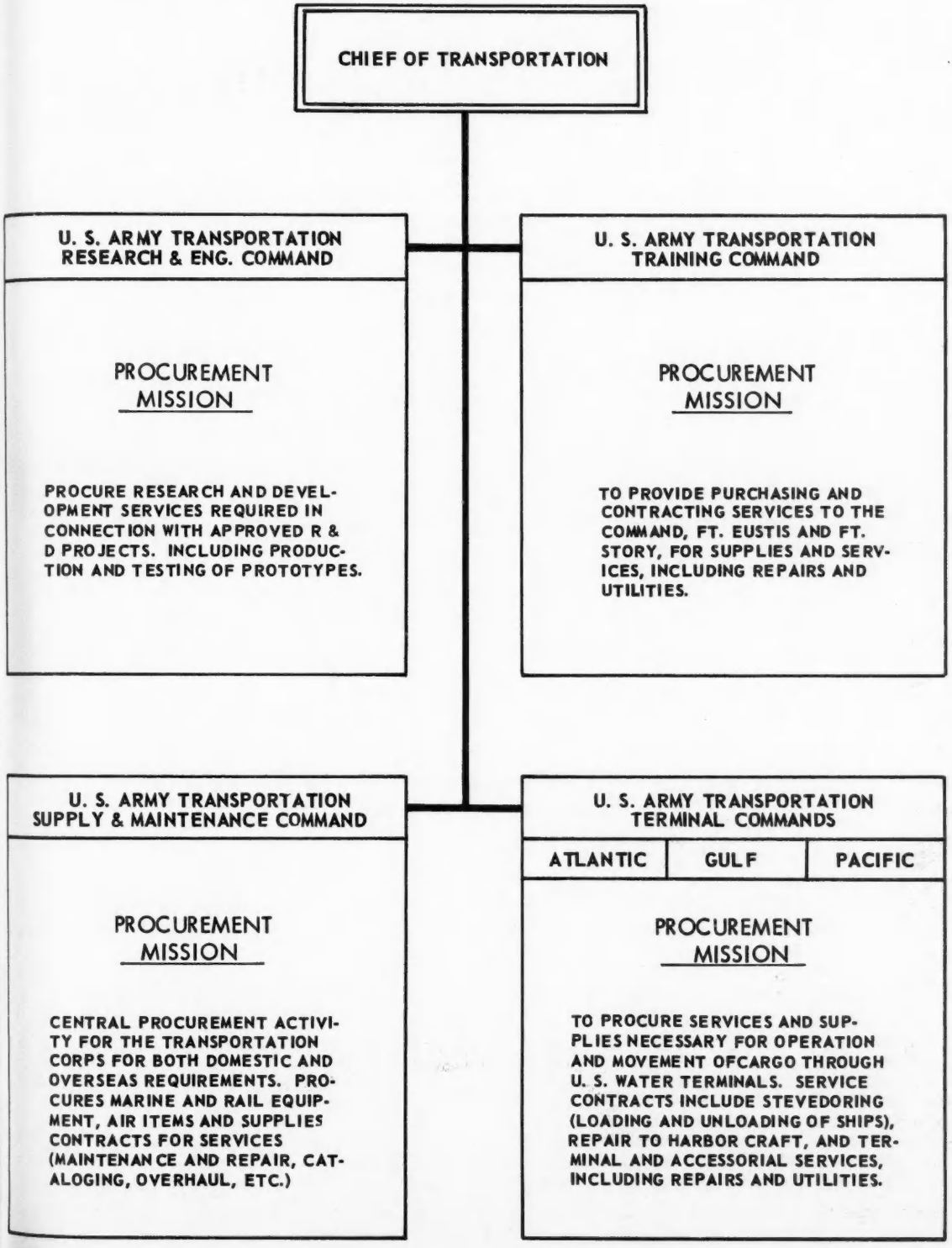
JAMES HUGHES, INC.

I. C. C. W-463

17 Battery Place, New York 4, N. Y. Tel. WHitehall 4-1048

CLEARING HOUSE FOR MARINE DIFFICULTIES SINCE 1894

TRANSPORTATION CORPS PROCUREMENT ORGANIZATION


CHIEF OF TRANSPORTATION
U. S. ARMY TRANSPORTATION RESEARCH & ENG. COMMAND
PROCUREMENT MISSION
PROCURE RESEARCH AND DEVELOPMENT SERVICES REQUIRED IN CONNECTION WITH APPROVED R & D PROJECTS. INCLUDING PRODUCTION AND TESTING OF PROTOTYPES.
U. S. ARMY TRANSPORTATION TRAINING COMMAND
PROCUREMENT MISSION
TO PROVIDE PURCHASING AND CONTRACTING SERVICES TO THE COMMAND, FT. EUSTIS AND FT. STORY, FOR SUPPLIES AND SERVICES, INCLUDING REPAIRS AND UTILITIES.
U. S. ARMY TRANSPORTATION SUPPLY & MAINTENANCE COMMAND
PROCUREMENT MISSION
CENTRAL PROCUREMENT ACTIVITY FOR THE TRANSPORTATION CORPS FOR BOTH DOMESTIC AND OVERSEAS REQUIREMENTS. PROCURES MARINE AND RAIL EQUIPMENT, AIR ITEMS AND SUPPLIES CONTRACTS FOR SERVICES (MAINTENANCE AND REPAIR, CATALOGING, OVERHAUL, ETC.)
U. S. ARMY TRANSPORTATION TERMINAL COMMANDS
ATLANTIC
GULF
PACIFIC
PROCUREMENT MISSION
TO PROCURE SERVICES AND SUPPLIES NECESSARY FOR OPERATION AND MOVEMENT OFCARGO THROUGH U. S. WATER TERMINALS. SERVICE CONTRACTS INCLUDE STEVEDORING (LOADING AND UNLOADING OF SHIPS), REPAIR TO HARBOR CRAFT, AND TERMINAL AND ACCESSORIAL SERVICES, INCLUDING REPAIRS AND UTILITIES.

U. S. Army Transportation Supply and Maintenance Command Operating Program Missions of the Field Activities

a. *U. S. Army Transportation Supply and Maintenance Command.* Mission: To direct, coordinate, and supervise the execution of approved policies and programs, as delegated, pertaining to supply, procurement, engineering, and maintenance activities within the CONUS TC field establishment; to exercise delegated technical supervision over the TC depot activities and over the maintenance of TC items of equipment at DA installations world wide.

b. *Charleston Transportation Depot.* Mission: To receive, store, and ship floating and rail items of supply and equipment to assemble marine kits and sets of repair parts for and to perform depot maintenance of transportation floating equipment, and to receive, identify, and classify transportation items of supply and equipment (except air items) returned by installations in states east of the Sixth U. S. Army area and from overseas through the East Coast Army Terminals.

c. *Maintenance Shop (Rail) Fort Holabird.* Mission: To provide depot maintenance for the repair of transportation rail equipment serviced in the continental United States east of the Mississippi River which requires a major overhaul or complete rebuild of parts, sub-assemblies, support for Army and Air Force rail equipment assigned to installations in Area Nbr 1 as directed by Headquarters, U. S. Army Transportation Supply and Maintenance Command; to receive and store transportation rail items of supply and equipment for long term plans, in accordance with instructions from Headquarters, U. S. Army Transportation Supply and Maintenance Command; to provide administrative services to the Eastern Railway Equipment Utilization Survey Team.

d. *Rio Vista Depot Activity.* Mission: To receive, maintain records of, inspect, store process, maintain, provide security for, outfits and prepares for shipment in consonance with instructions from U. S. Army Transportation Supply and Maintenance Command, and ships TC reserve equipment; to receive, store and ship world wide, TC marine end items, marine kits and sets; to maintain reserves and store, in accordance with long term plans, supplies of other agencies in accordance with instructions from U. S. Army Transportation Supply and Maintenance Command, and TC stocks for industrial mobilization reserves; to provide for depot maintenance repairs to stored marine equipment and active harbor craft as directed by U. S. Army Transportation Supply and Maintenance Command. To receive, process, store, inspect, provide security for and prepare for shipment, Air Force reserve marine equipment (except electronic equipment) stored at Rio Vista for the Sacramento Air Materiel Area, McClellan Air Force Base, Sacramento, and accomplish repair of in-storage damage of vessels as directed by the Commander, SMAMA).

e. *Beaver Depot Activity.* Mission: To receive, store and prepare for shipment major end items of marine equipment, spare parts and general supplies as directed by and in accordance with procedures and directives published by the U. S. Army Transportation Supply and Maintenance Command. To provide for depot maintenance of marine end items of floating equipment, assemblies and sub-assemblies as directed by the U. S. Army Transportation Supply and Maintenance Command.

f. *Delta Depot Activity.* Mission: To receive and store transportation floating items of supply and equipment, to provide for depot maintenance on transportation floating equipment and to receive, identify, and classify transportation floating items of supply and equipment returned by installations in the states of New Mexico, Oklahoma, Arkansas, Texas, Louisiana, Mississippi, Alabama, Florida, and the Gulf Coast Army Terminals.

g. *U. S. Army Transportation Aircraft Test and Support Activity. Fort Rucker.* Mission: To conduct flight tests on Army aircraft as directed, so that approximately 1000 hours of flying time can be accumulated as expeditiously as possible; to maintain appropriate records of flight test and resultant maintenance to enable the Commanding General, U. S. Army Transportation Supply and Maintenance Command, to evaluate the results thereof; and to supervise contractual field maintenance support for the aircraft assigned to the Army Aviation Board, the Signal Corps Aviation Testing Activity and the Transportation Aircraft Test and Support Activity, as well as organizational maintenance for the Transportation Aircraft Test and Support Activity.

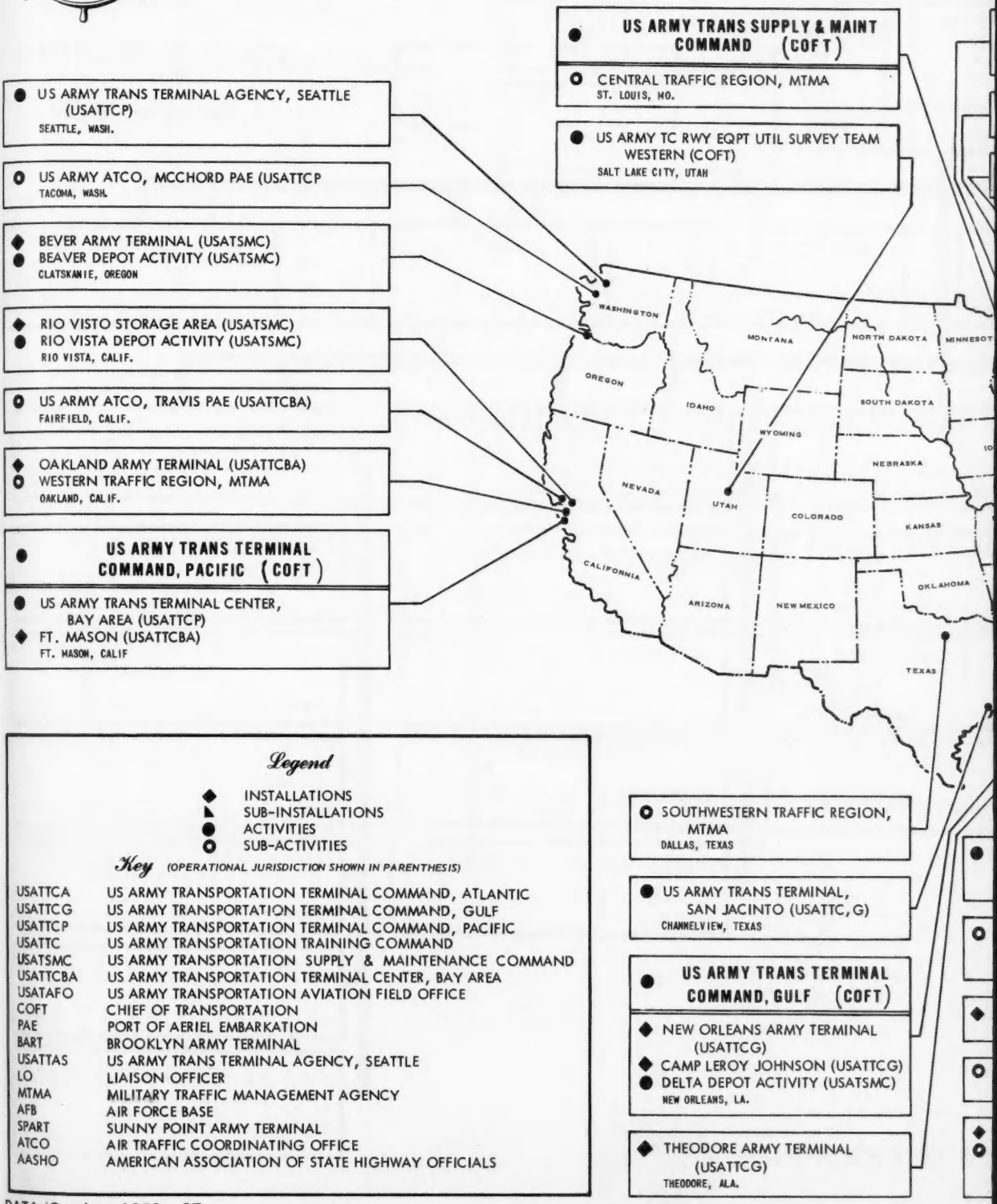
h. *U. S. Army Transportation Supply and Maintenance Command Marine Liaison Offices (Brooklyn and Hampton Roads).* Mission: To implement the depot maintenance support program for all TC Marine Equipment as approved and directed by Headquarters, U. S. Army Transportation Supply and Maintenance Command. One at Brooklyn, one at Hampton Roads.

j. *U. S. Army Transportation Supply and Maintenance Command Production Liaison Office, Washington, D. C.* Mission: Under the operational jurisdiction of the Commanding General, U. S. Army Transportation Supply and Maintenance Command, serves as liaison representative to insure the timely production scheduling and delivery of floating equipment procured by the Bureau of Ships and Bureau of Yards and Docks, U. S. Navy, for the Transportation Corps.

k. *Mobile Rail Field Maintenance Shops. There are 3 of these, located at Holabird, Charleston and Joliet, Ill.* Mission: To provide field maintenance support for all rail equipment located at CONUS Army and Air Force installations.

l. *U. S. Army Transportation Supply and Maintenance Command Aircraft Service Center No. 1 (Model Shop).* Mission: To provide third echelon field maintenance and supply support to Army aircraft as assigned; to test and evaluate new and revised concepts, equipment, and procedures relating to maintenance of aircraft and operational supply systems; to serve as a model field maintenance activity to CONUS.

TRANSPORTATION COR



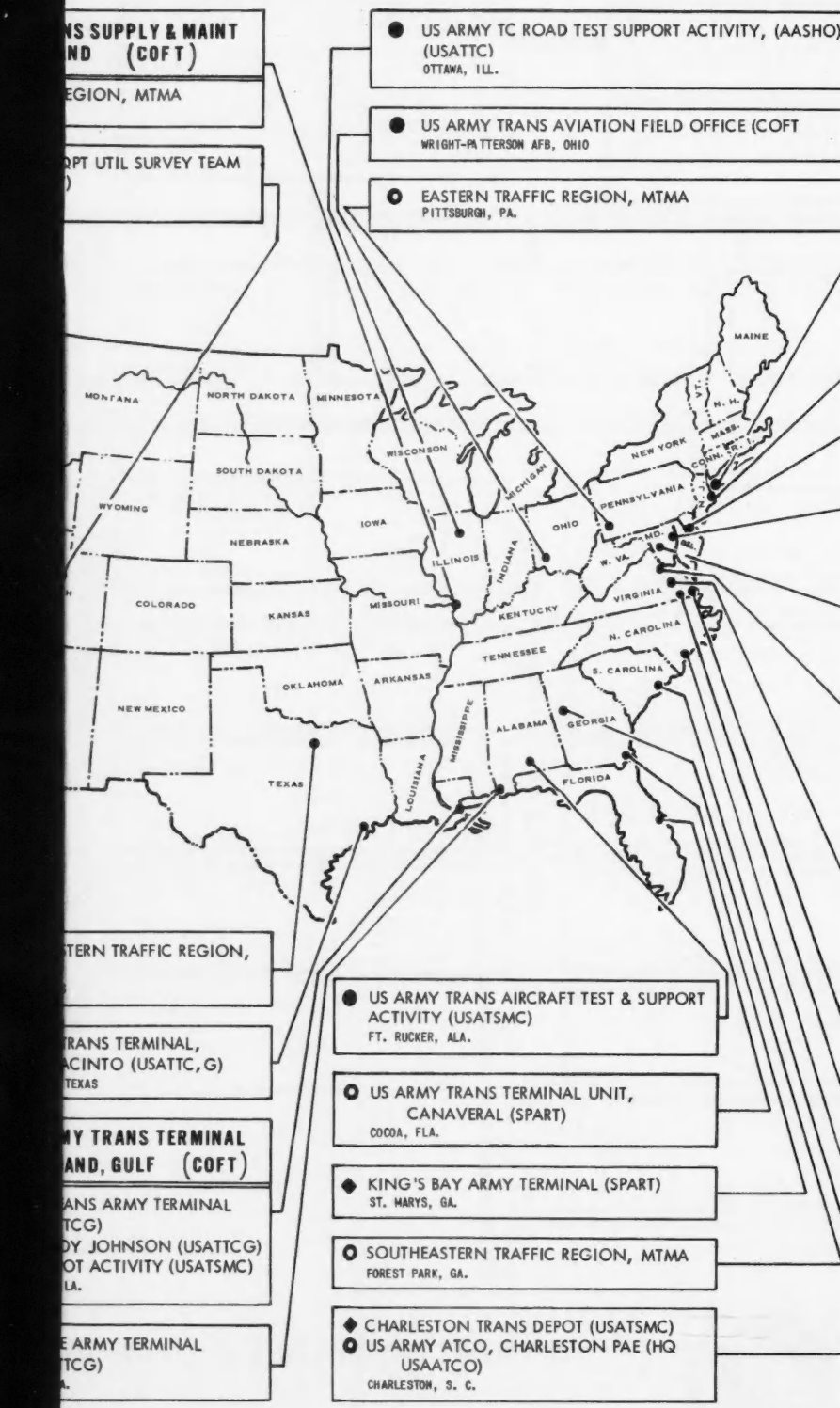
Legend

◆ INSTALLATIONS
◣ SUB-INSTALLATIONS
● ACTIVITIES
○ SUB-ACTIVITIES

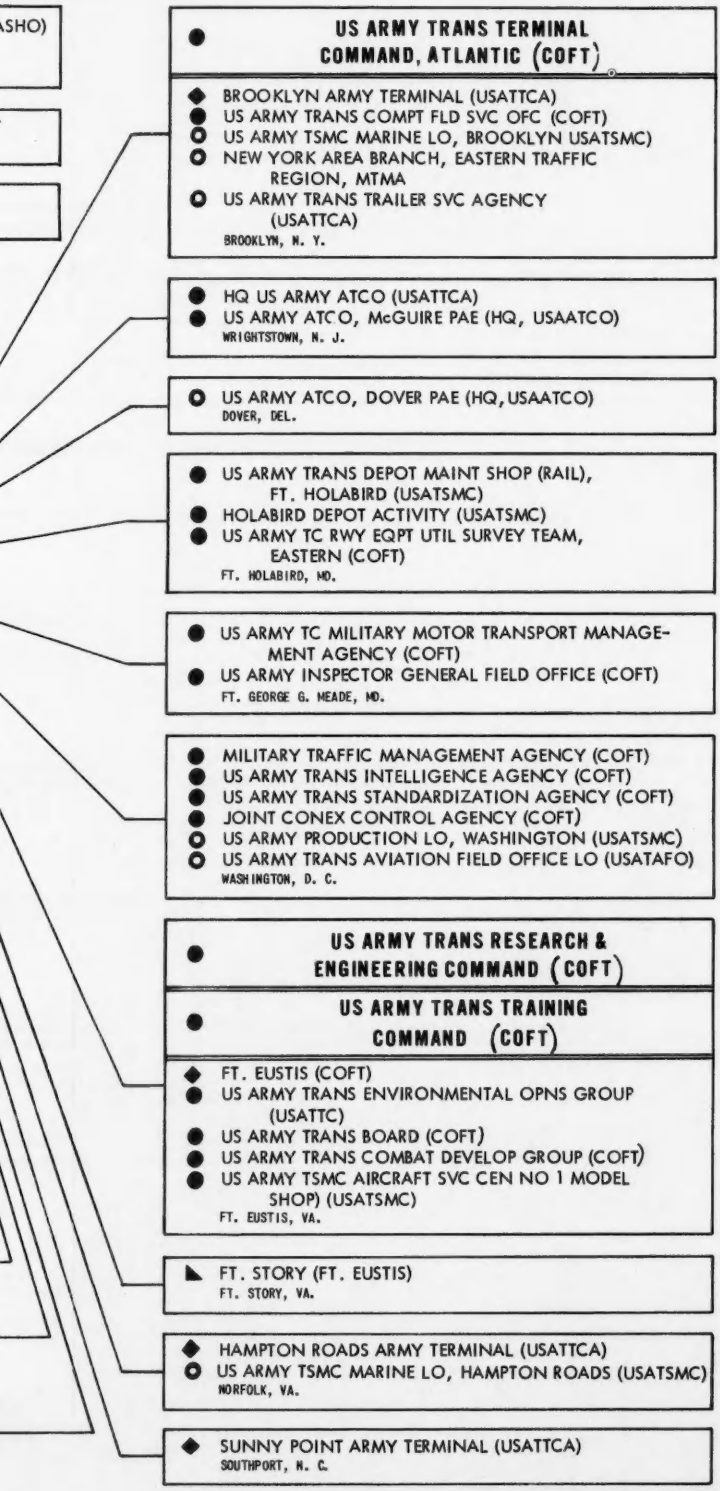
Key (OPERATIONAL JURISDICTION SHOWN IN PARENTHESIS)

USATTCA	US ARMY TRANSPORTATION TERMINAL COMMAND, ATLANTIC
USATTCG	US ARMY TRANSPORTATION TERMINAL COMMAND, GULF
USATTCP	US ARMY TRANSPORTATION TERMINAL COMMAND, PACIFIC
USATTC	US ARMY TRANSPORTATION TRAINING COMMAND
USATSMC	US ARMY TRANSPORTATION SUPPLY & MAINTENANCE COMMAND
USATTCBA	US ARMY TRANSPORTATION TERMINAL CENTER, BAY AREA
USATAFO	US ARMY TRANSPORTATION AVIATION FIELD OFFICE
COFT	CHIEF OF TRANSPORTATION
PAE	PORT OF AERIEL EMBARKATION
BART	BROOKLYN ARMY TERMINAL
USATTAS	US ARMY TRANS TERMINAL AGENCY, SEATTLE
LO	LIAISON OFFICER
MTMA	MILITARY TRAFFIC MANAGEMENT AGENCY
AFB	AIR FORCE BASE
SPART	SUNNY POINT ARMY TERMINAL
ATCO	AIR TRAFFIC COORDINATING OFFICE
AASHO	AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS

ON CORPS FIELD O



ORGANIZATIONS

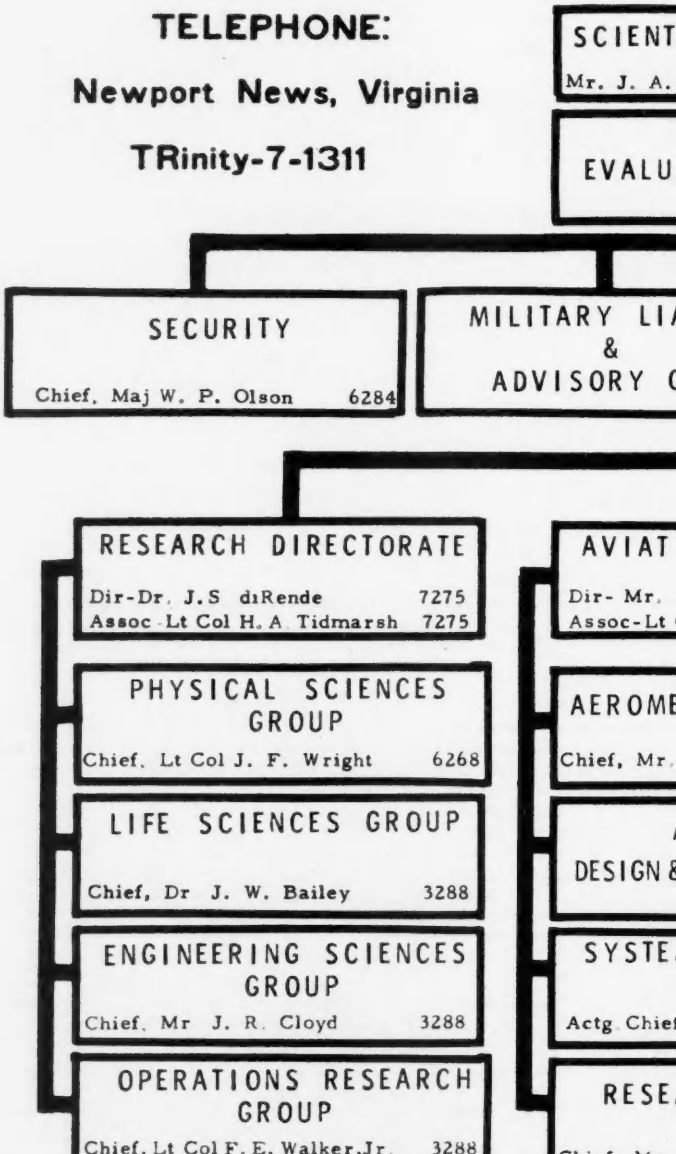

ASHO)
US ARMY TRANS TERMINAL COMMAND, ATLANTIC (COFT)
BROOKLYN ARMY TERMINAL (USATTCA)
US ARMY TRANS COMPT FLD SVC OFC (COFT)
US ARMY TSMC MARINE LO, BROOKLYN USATSMC)
NEW YORK AREA BRANCH, EASTERN TRAFFIC REGION, MTMA
US ARMY TRANS TRAILER SVC AGENCY (USATTCA)
BROOKLYN, N. Y.
HQ US ARMY ATCO (USATTCA)
US ARMY ATCO, McGUIRE PAE (HQ, USAATCO)
WRIGHTSTOWN, N. J.
US ARMY ATCO, DOVER PAE (HQ, USAATCO)
DOVER, DEL.
US ARMY TRANS DEPOT MAINT SHOP (RAIL), FT. HOLABIRD (USATSMC)
HOLABIRD DEPOT ACTIVITY (USATSMC)
US ARMY TC RWY EQPT UTIL SURVEY TEAM, EASTERN (COFT)
FT. HOLABIRD, MD.
US ARMY TC MILITARY MOTOR TRANSPORT MANAGEMENT AGENCY (COFT)
US ARMY INSPECTOR GENERAL FIELD OFFICE (COFT)
FT. GEORGE G. MEADE, MD.
MILITARY TRAFFIC MANAGEMENT AGENCY (COFT)
US ARMY TRANS INTELLIGENCE AGENCY (COFT)
US ARMY TRANS STANDARDIZATION AGENCY (COFT)
JOINT CONEX CONTROL AGENCY (COFT)
US ARMY PRODUCTION LO, WASHINGTON (USATSMC)
US ARMY TRANS AVIATION FIELD OFFICE LO (USATAFO)
WASHINGTON, D. C.
US ARMY TRANS RESEARCH & ENGINEERING COMMAND (COFT)
US ARMY TRANS TRAINING COMMAND (COFT)
FT. EUSTIS (COFT)
US ARMY TRANS ENVIRONMENTAL OPNS GROUP (USATTC)
US ARMY TRANS BOARD (COFT)
US ARMY TRANS COMBAT DEVELOP GROUP (COFT)
US ARMY TSMC AIRCRAFT SVC CEN NO 1 MODEL SHOP) (USATSMC)
FT. EUSTIS, VA.
FT. STORY (FT. EUSTIS)
FT. STORY, VA.
HAMPTON ROADS ARMY TERMINAL (USATTCA)
US ARMY TSMC MARINE LO, HAMPTON ROADS (USATSMC)
NORFOLK, VA.
SUNNY POINT ARMY TERMINAL (USATTCA)
SOUTHPORT, N. C.

TRANSPORT

TELEPHONE:

Newport News, Virginia

TRinity-7-1311



TATION RESEARCH AND E

FORT EUSTIS, VIR

ENTIFIC DIRECTOR
. A. Johnson 23175

ALUATION GROUP

COMMANDING OFFICI
Col V. R. Beck 627

DEPUTY COMMANDING OFFICE
Col J. W. Murray 2317

LIAISON
Y GROUP

COMPTROLLER
Compt- Mr. G. W. Ema 22184
Budget- Mr. R. W. Jordan 5283

RESEAR
RCO-Lt Col
Ass't RCO-

ATION DIRECTORATE
Mr. L M. Hewin 6184
-Lt Col E. H. Francis 6184

OMECHANICS GROUP
Mr. J. G. McHugh 22166 5186

AIRCRAFT
GN & PERFORMANCE GROUP

STEMS REQUIREMENT GROUP
Chief, Mr. J. N. Daniel 23208

ESEARCH ANALYSIS GROUP
Mr. F. P. McCourt 4284

SURFACE DIRECTORAT
Dir- Mr. C. D. Roach 72
Assoc-Lt Col C. F. McCallum 72

LAND MOBILITY GROUP
Chief, Lt. Col. S. W. Williamson 6

MARINE & TERMINALS GROUP
Chief, Lt Col M. E. Manley 41

ADVANCE STUDIES GRO
Chief, Lt Col G. E. McConnell 22

STAFF DUTY OFFICER-

H AND ENGINEERING COMMAND
TIS, VIRGINIA

STAFF DIRECTORY

1 October 1959

ING OFFICER
Beck 6276

MMANDING OFFICER
Murray 23175

OPERATIONS COUNCIL

R
84
283

RESEARCH CONTRACTING OFFICE
RCO-Lt Col A. M. Steinkrauss 23289
Ass't RCO-Mr. V. H. Hollis 23289

LEGAL OFFICE
Mr. R. F. Wellman 21169

PLANS & PROGRAMS OFFICE
Mr. M. D. Davis 6275

E DIRECTORATE
D. Roach 7287
C. F. McCallum 7287

OBILITY GROUP
ol. S. W. Williamson 6185

& TERMINALS GROUP
M. E. Manley 4183

STUDIES GROUP
G. E. McConnell 22276

TRANSPORTATION ENGINEERING OFFICE
Chief, Col D. G. Dow 23120
Assoc- Mr. T. F. Guthrie 23120

TRANSPORTATION ANALYSIS DIVISION

TRANSPORTATION CAPABILITIES DIVISION

TRANSPORTATION ENGINEERING DIVISION

TRANSPORTATION SERVICES DIVISION

SUPPORT DIRECTORATE
Dir - Col R. B. Harrison 25279

ADMINISTRATIVE DIVISION
Chief, Lt Col W. K. Dougan 4178
Sgt Maj MSgt H. B. Adams 4178

TECHNICAL SERVICES DIVISION
Chief, Lt Col W. W. KinKead 23164

TEST DIVISION
Chief, Lt Col R. C. St. John 6180

TECHNICAL INFORMATION DIVISION
Chief, Lt Col C. E. Routh 25279

LOGISTICS DIVISION
Chief, Lt Col R. W. M. Weir 24177

HQ & HQ SERVICE COMPANY
CO, Capt M. J. West 22184

TY OFFICER-4166

Message from the COMMANDER OF TRECOM

If we are to maintain supremacy in battlefield mobility, we must be engaged in a continuing, active, and aggressive research program. At USATRECOM, we are attempting, through research, to do our part in the development of radically new and improved transportation systems.

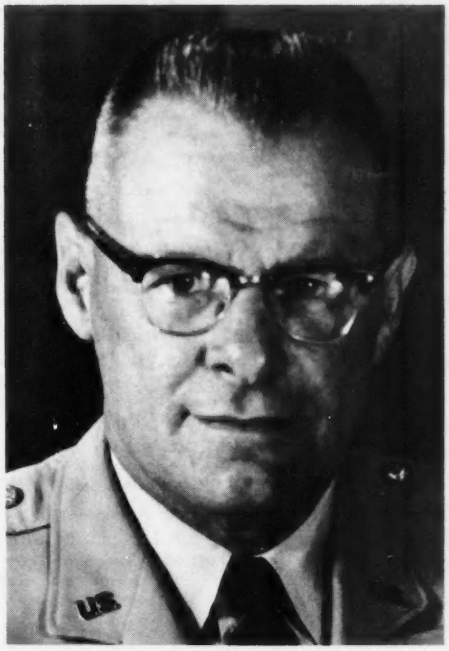
To effectively prosecute such a program, we must keep abreast of the latest scientific and technological advancements. Therefore, it is most important that we at USATRECOM maintain active liaison with industrial, research, and institutional organizations.

To members of those organizations who have rendered invaluable assistance in our R&D efforts in the past, I express appreciation and share with you a feeling of pride in our many accomplishments.

With the advent of our increased responsibilities in basic and applied research, I urge continued participation by contractors presently engaged in our activities. To those of you becoming acquainted with us for the first time, USATRECOM would welcome the opportunity of discussing the possibilities that our research program offers.

Vancel Beck

VANCEL R. BECK
Colonel, TC
Commanding



COLONEL VANCEL R. BECK

Colonel Vancel R. Beck, Commanding Officer, Army Transportation Research and Engineering Command, is responsible for the direction of the research program for Army transportation. His assignment to other Arms and Services has provided an insight into the Army's logistic requirements. He commanded the Army Transportation Combat Development Group where he was responsible for the development of doctrine for future transportation systems. A native of Cleveland, Ohio, Colonel Beck was born May 25, 1909. He attended Case Institute of Technology, the American University and advanced military courses.

TRECOM

The U. S. Army Transportation Research and Engineering Command (USA TRECOM) is the research and engineering agency of the Transportation Corps.

Located at Fort Eustis, Va., technical experts, both military and civilian, are engaged by USA TRECOM to carry out the mission. The civilians, with their technical and scientific training, are the nucleus of the Command's research and development programs. In addition, the military experts bring to the organization field experiences with transportation equipment. These sources are supplemented by personnel who have entered military service from colleges and private industries.

A major reorganization of TRECOM is currently in progress. Although the Transportation Corps has been directing its efforts for some time in the conduct of basic research, it has been determined that a realignment of the research and engineering mission and functions will permit USA TRECOM to pursue a more active and effective research program. TRECOM will continue to conduct activities in the development and engineering of research test beds from concept to reality.

The mission of USA TRECOM under the reorganization is: to conduct basic and applied research in both air and surface fields to include test bed evaluation in the search for new scientific knowledge and new concepts for use in the development of optimum materiel and techniques to support the mission of the Transportation Corps; to prosecute the development of surface items of equipment to the point of type classification and to procure and test items requisite to such research and development activities; to provide field service in support of the Transportation Engineering segment of the Transportation Corps Command Operating Program.

PARTIAL LIST OF MAJOR R & D CONTRACTS
with
U. S. ARMY TRANSPORTATION RESEARCH AND ENGINEERING COMMAND

Contractor	Contract Am't in Dollars	Description
Fairchild Aircraft Div.	$1,220.129.00	STOL/VTOL Research Aircraft
Doak Aircraft Co., Inc.	1,403,464.74	STOL/VTOL Research Aircraft
University of Wichita	62,175.64	Studies, Res. & Eval. in General Fld. of Adv. Aero Science
Vertol Aircraft Corp.	35,783.00	Parametric Design Study of Heavy Lift Flying Crane
Kellett Aircraft Corp.	61,881.37	Analytical Design Study of Convertiplane Rotor System
Sikorsky Aircraft	51,367.00	Study of Flying Crane Type Single Gear Drive Helicopter
Bell Helicopter	57,719.00	Design Study of Heavy Lift Flying Crane
Leland Stanford Jr. Univ.	274,055.00	System of Trans. Movements Using Elect. Computer
Stevens Inst. of Tech.	10,928.16	Advisory Services: Marine, Rail, Motor Fields
Trustees of Princeton Univ.	85,591.00	Invest. Stability & Control of Unducted Flying Platform
Wilson, Nuttall Raimond, Engrs.	82,816.00	Advisory Services—Mobility Problems
Curtis-Wright Corp.	897,184.54	Design, Constr. & Test of one 4-ducted Aerial Jeep
Georgia Tech Institute	.....	Studies, Res. & Eval. in Adv. Aero Science
Planning Research Corp.	275,379.09	Study & Eval. Transportation System
Kaman Aircraft	205,902.00	Investigation of Flight Characteristics
Sparkman & Stevens, Inc.	18,273.00	Studies & Reports of Self-Elevating Pier Jacks
Cornell Aero Lab.	232,282.00	Aerodynamic Research on STOL/VTOL Configur.
General Electric Co.	275,689.00	Res. Study of Propulsion Systems for VTOL Aircraft
Chrysler Corp.	1,111,893.00	Des, Constr. & Testing of one 2-ducted Aerial Jeep
Piasecki Aircraft Corp.	2,134,497.00	Des, Constr. & Testing of two 2-ducted Aerial Jeep
Skagit Steel & Iron Works	232,597.00	Constr. of Landing Craft Retr. Mark II & Drawings
Vertol Aircraft Corp.	26,150.00	Eng. Anal. Floating Wing Tanks Copter Range Extension
Ingersoll-Kalamazoo Div. Borg-Warner	1,730,764.72	Des. & Constr. Prototype Amphibious LARCS — 3 - 5-ton and 3 - 15-ton
Vertol Aircraft Corp.	208,147.00	Engr. Invest. Des. & Constr. Multi-Copter Lift Apparatus
FWD Corp.	116,665.53	Rolling Fluid Transporter
Sun Electric Co.	75,703.00	Hydraulic Test Stand & Bench Test Stand for Maintenance
Mass. Instit. of Tech.	53,310.00	Res. Studies, Adv. Services Eng. & Eval. Gen. Fld. Aviation
Vertol Aircraft Corp.	282,455.00	Des. & Constr. VTOL/STOL Res. Mod. Aircraft (Wind Tunnel)
Kellett Aircraft Corp.	98,255.00	Aircraft Fuel & Oil Systems
Leland Stanford Jr. Univ.	392,764.00	Trans. Movement Study
R. G. LeTourneau	1,724,910.00	Eng., Des. & Constr. of Overland Train
ACF Industries, Inc.	18,165.22	POL Trarsporter Railway Tank Car Foreign Serv.
Hiller Aircraft Corp.	124,180.00	VTOL Downwash Impingement Study
Cornell Aero Lab.	40,818.00	Planning Study of Res. Eval. for VTOL/STOL Aircraft
Vertol Aircraft Corp.	34,898.00	Prelim. Des. Study of Light Tilt Wing VTOL Trans. Aircraft
Case Instit. of Tech.	76,200.00	Development of Working Hypothesis or Mathematical Model
Doak Aircraft Corp.	33,847.00	Des. Study for VTOL Light Transport Aircraft
Sparkman & Stephens, Inc.	5,800.00	Advisory Services for Spec. Purpose Vehicle Program
Trustees of Princeton Univ.	24,796.57	Ground Effect Model Invest.
Doak Aircraft Co.	45,354.15	Constr. 1 Ducted Propellor Assembly
Pullman-Standard Car Mfg. Co.	36,270.00	Engr. & Des. of Tank Transptr. Narrow Gauge Rail—50 Ton
Trustees of Princeton Univ.	1,605,000.00	Research for Air Veh. for Army Transportation
General Electric Co.	50,024.00	Research Thermoelectric Conversion of Energy
Sparkman & Stephens Inc.	6,792.00	Drawings, specs. for Structural Fendering System
Booz-Allen Applied Res.	96,074.00	Study of Specified Tasks in USA TRECOM
Sikorsky Div. United Aircraft	56,271.89	Measure Dynamic Airload on Copter Rotor Blades
University of Dayton	14,800.00	Theretical Structural Analysis HUI-A
Vertol Aircraft Corp.	60,424.00	Wind Tunnel Tests & Further Anal. of Floating Wing Tanks
Reed Research, Inc.	18,152.00	Develop Lightweight Aircraft Jacks
Vertol Aircraft Corp.	16,321.00	Invest. Flight Test for Improved Cargo Sling
Sikorsky Div. United A/C	30,000.00	Lease of S-60 Flying Crane for Concept Evaluation

MILITARY TRAFFIC MANAGEMENT

Primary mission of the Military Traffic Management Agency (pronounced "Mitma" when abbreviated) is what its name implies.

Under the "Single Manager" system it is the top staff agency of the Department of Defense responsible for managing the traffic within the continental United States of all three military services. This means that it selects or approves domestic routings and negotiates or approves tariffs (rates) covering all shipments of a half a ton or more.

"Customers" of MTMA are thus the thousand or so posts, camps and bases in the U. S. plus many hundreds of commercial and industrial suppliers whose shipments to these installations are at "government rates."

Unlike MATS, which controls its own airplanes, and MSTS, which owns many of the ships it uses, MTMA has very little equipment of its own. It depends upon the railroads and other domestic common carriers for the movement of goods, but provides planning and coordinating services vital to economy and efficiency in both peace and war.

Administratively, MTMA is a Class II Activity of the Army's Chief of Transportation. As such, its Executive Director reports in turn through COT, DCSLOG, ASA(Log) and the Secretary of the Army. In technical traffic management matters, however, it is subordinate only to decisions of the Secretary of Defense, the General Services Administration and the Comptroller General. Staffing is by selected career officers of the various services, who serve normal military tours of duty, and by civilian career employees under civil service.

Railroads and other common carriers are in constant contact with headquarters activities, centralized at Gravelly Point, Va., in Building T-7, ten minutes from the Pentagon. Major associations representing air, water, bus, truck and rail carriers have offices in T-7.

Suppliers to the armed forces, particularly those who submit competitive bids, maintain contact with the five regional offices and one branch office, located as shown on the attached chart.

Cost of transportation at government rates must be taken into consideration in making all quotations. Thus competitive bids can be calculated properly only by bidders who consult the files of approved rates and routings maintained at the regional and branch offices.

REGIONAL AND BRANCH OFFICES

Eastern Traffic Region
Fulton Building, 107 6th Street
Pittsburgh 22, Pennsylvania
GRant 1-5300, Extensions 79 & 80

Area served: Delaware, District of Columbia, Maryland, Pennsylvania, the cities of Falls Church and Alexandria and the counties of Arlington, Fairfax, King George, Prince William, Stafford and Westmoreland in Virginia.

Central Traffic Region
12th & Spruce Streets
St. Louis 2, Missouri
MAin 1-6426, Extensions 700 & 706

Area served: Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Montana, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin and Wyoming.

Western Traffic Region
Oakland Army Terminal
Oakland 14, California
TWinoaks 3-4100, Extensions 7120 and 7126

Area served: Arizona, California, Idaho, Nevada, Oregon, Utah and Washington.

New York Area Branch Office
of the Eastern Traffic Region
First Avenue and 58th Street
Brooklyn 50, New York
GEdney 9-5400

Area served: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont.

Southeastern Traffic Region
Atlanta General Depot
Forest Park 4, Georgia
POplar 1-4561, Extensions 7201 & 7202

Area served: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, West Virginia and all of Virginia not served from Pittsburgh.

Southwestern Traffic Region
901 Ross Avenue (Universal Building)
Dallas 2, Texas
RIverside 8-5611, Extensions 2476 & 2477

Area served: Arkansas, Louisiana, New Mexico, Oklahoma and Texas.

Operational Requirements

expressed military needs

OF THE U.S. ARMY TRANSPORTATION CORPS

Mobility is The Key

by
RALEIGH T. CARROLL
Technical Liaison Officer
USA OCOFT

Mobility is the one word which summarizes best the mission of the Army Transportation Corps. In accomplishing this mission, the Corps is committed to achieving advances in three major areas: (1) strategic mobility, (2) over-the-beach mobility, and (3) battlefield mobility.

Strategic Mobility

Strategic mobility, or the capability of moving forces wherever they are needed in the world, is largely the province of sister Services who provide long range sea and airlift for the Army. The Transportation Corps' principal contribution has been its continuing effort to make the Army easier to move. The objective is to insure that military material and equipment is so designed, engineered, and constructed that it can be transported efficiently. The aim is to achieve reduction of weight and bulk. Efforts are also made to develop equipment suitable for carrying sensitive and hazardous items as well as those which require temperature and moisture control. The Transportation Corps furnishes information to sister Services, designers of aicraft, missiles, and other equipment on limitations and capabilities of modes of transportation throughout the world.

The Corps' efforts have by no means been confined to improving transportability of military hardware, but also include significant strides in increasing the overall efficiency of the movement process.

Any measure which cuts down oversea movement time contributes to strategic mobility. With this in mind, the Corps is turning to greater use of automatic data processing systems (ADPS). The basic concept is to move information quickly and far enough ahead of cargo to assure time for planning and effective control. ADPS is already being utilized as a means of speeding up the movement of military passengers overseas and the Transportation Corps is now war-gaming the "Integrated Transportation System." This system would convert cargo movement procedures to ADPS, effectively tieing together the Transportation Corps' terminal commands, the terminals, the shipper, and other Defense agencies involved in the shipping process. ADPS procedures are expected to save anywhere from 1 to 24 days in the supply cycle. Since a day of supply in the Army-Air Force pipeline is estimated to be worth some $26 million, every day saved can render valuable dividends to the taxpayer.

Some seven years ago, a searching analysis was made of typical military cargo. It was found that 42% would fit into a 7 foot cube, and that an additional 24% traveled on its own wheels or tracks. This study launched the Transportation Corps into the field of containerization. A steel shipping box (CONEX, for Container Express) was developed, which homogenized numerous odd sized packages into an interchangeable, standard unit that can be transferred freely from mode to mode, whether truck, train or ship. Under favorable conditions, these containers can move from factory to soldier on the fighting front without once stopping to break bulk. Today, the combined Army-Air Force fleet of these containers has grown to over 57,000. A lightweight fiberboard insert container has also been developed for use by STRAC (Strategic Army Corps). Organizational impedimenta and supplies can be prepacked in these inserts for rapid air deployments. When the shipment moves by surface transportation the inserts are loaded into the larger CONEX (6 per CONEX).

With respect to the 24% of military cargo which travels on its own wheels or tracks, another form of containerization has been employed. Working with the Navy, the American shipping industry is being encouraged to develop ships which are adapted to roll-on/roll-off operations. Studies revealed a requirement for up to 25 ships in event of a limited war. The Defense Department has already obtained Congressional authority to acquire six. Based upon this Army requirement, the Navy is now operating two roll-on/roll-off ships, the "COMET" and "TAURUS" between Atlantic coastal ports and Europe, carrying wheeled and tracked vehicles and loaded trailer vans. The big advantage of the roll-on/roll-off ship is the speed of loading and discharge thru utilizing the mobility inherent in the cargo itself. The "COMET" recently discharged 8,000 tons of cargo and loaded 4,000

tons more in less than 12 hours and the "TAURUS" discharged 5,000 tons and reloaded 5,000 tons in 11 hours.

Another example of containerization is the 400 semi-trailers which the Army has set aside for express service from U. S. to overseas depots. The average delivery time is nineteen days.

Future Needs to Improve Strategic Mobility

The continuation of the trend to greater integration of all forms of transportation—land, sea and air—thru maximum use of containerization will improve strategic mobility. Innovations such as the already successful seatrain, piggyback, fishyback, and roll-on/roll-off and lift-on/lift-off shipping are needed to improve speed and efficiency. Transportability of military equipment can be improved thru use of lightweight materials. Better shipping methods are being developed for the delivery of missiles from factory to firing area. The Army is working for a strategic movement capability properly balanced between air and sea lift. Land-based aircraft, water-based aircraft, conventional shipping and specialized shipping will all be required in proper proportion.

Over-the-Beach Mobility

Studies of resupply operations under nuclear war conditions show that dependence on large fixed terminals of all types must be reduced. The Army needs an integrated transport system which can deliver personnel and supplies by land, sea, or air, despite a minimum or total lack of terminal facilities.

For instance, in the discharge area, a roll-on/roll-off ship could unload its vehicles onto a self-erecting portable pier thru a small port complex. In the absence of a pier, the vehicles would be transferred in deep water from the roll-on/roll-off ship onto a beach lighter for direct delivery to the beach. A 338-ft. prototype beach lighter, the "LT. COL. JOHN U. D. PAGE," developed by the Transportation Corps, has been testing this concept with the Navy's roll-on/roll-off ship, the "COMET." If necessary, ocean going vessels would be unloaded by amphibians with capacities up to 60 tons. These amphibians would haul cargo over-the-beach to inland supply dumps, keeping the beach clear and thus less vulnerable to enemy attack. Under certain circumstances helicopters might help unload ships by carrying cargo slung beneath their fuselage.

Future Needs to Improve Over-the-Beach Mobility

For the present, roll-on/roll-off ships, beach lighters, amphibians and helicopters will be counted upon to do the job. Existing landing craft which must stop at the shore lines will be replaced as fast as possible with the more versatile amphibians. Later hydrafoils may be added as a means of attaining greatly increased water speeds. Also, a newer phenomenon is being investigated known as "ground effect or ground cushion." When perfected, the vehicle will "ride" on a high pressure air mass directly below the craft. The height above the water or land surface is yet to be finalized. Low ground pressure vehicles are already available. Improvements of these craft may allow high speed delivery of cargo and personnel over land or water, with equal facility. However, logisticians feel that the trend may be eventually to the air.

Battlefield Mobility

Leaving the beaches for the battlefield, the Army is making new strides toward mobility. For long distance cross country land hauls in remote areas, the "Overland Train" has been developed. Based upon the use of giant low pressure tires, the train consists of a control car, living quarters, 10 trailers and a power car, with each trailer carrying a 15-ton payload, or 150 tons for the train. Each wheel is powered by a separate 40 hp electric motor with electricity furnished by a generator on the power car.

Another item for improving cross-country logistical mobility is the "GOER." The experimental models are patterned after the large commercial earth moving vehicles and can carry a 15-ton payload across rough terrain. The Transportation Corps is studing the feasibility of using several sizes of these vehicles for cross-country logistical support.

An example of another unusual device which will contribute to battlefield mobility is the Rolling Fluid Transporter. Each unit consists of two wheels 5' high and 3½' wide, with necessary pumps and connections. It can be towed anywhere the prime mover will go, will float, and can be dropped from the air. Each wheel carries 500 gallons. As an indication of the impact of this development on battlefield mobility, by towing one Rolling Fluid Transporter unit, an M48 tank could extend its range nearly five times beyond that provided by its own gas tank.

Although there are many projects to improve ground mobility, the principal effort is on air items. The Army must be able to move freely in the battle zone without depending upon roads or airfields. All Transportation Corps aircraft projects are directed toward this purpose.

For instance, there is a turbine powered version of the "Vertol 107" now under development. Besides the greater lift per pound offered by the turbine engine, the aircraft has a rear ramp for ease of loading and unloading.

Short take-off and landing aircraft (STOL) are being used for economical battlefield hauls beyond optimum helicopter range. One of the newer aircraft, the "Caribou," lifts a maximum of 7,300 lbs. at 148 knots cruising speed, and also employs rear ramp loading. Its long cargo compartment also gives the craft an excellent missile carrier potential.

Two vertical take-off and landing test-bed aircraft, the Vertol tilt-wing and Doak ducted fan, have been flown successfully. These craft have taken off vertically and have converted in mid-air to horizontal flight. The Mohawk is a STOL observation aircraft with a higher performance than most Army planes. It has been designed as a tactical electronics combat surveillance aircraft, to carry *side-looking* radar and photographic and missile guidance gear.

The "aerial jeep," a direct lift-propulsion air vehicle, has flown successfully. It is designed to carry one or two soldiers with light weapons, and will fly close to the nap of the earth, darting around or hovering behind terrain obstacles.

In this area of battlefield mobility, the Transportation Corps has another major concern—the supply and maintenance of transportation equipment. At the present time this responsibility involves the management of over a billion dollars worth of equipment. About 30% of that amount is in aircraft. Earlier concepts of maintenance and supply of aircraft were based on a type field Army with 300 to 400 air vehicles. Today's type field Army is authorized more than 1,500. A large portion of the increase has been in cargo or mobility type aircraft and has resulted largely from the introduction of much larger and more complex helicopters. This has brought on a corresponding increase in maintenance requirements.

For the past several years the Transportation Corps has been working on improved supply and maintenance concepts capable of supporting these aircraft in the field. New organizations have been established which range from detachments performing third echelon maintenance on the site to depot support companies which repair parts and return them to stock. A family of self-contained mobile maintenance vans has been developed to inject as much mobility as possible into the maintenance process. These vans are fitted out with the necessary tools and shop equipment to perform all levels of maintenance which can be accomplished under field conditions. Being on wheels, they can move quickly from one field to another along with the aircraft they are assigned to maintain.

Another type shop has been developed which can be lifted from site to site by helicopter.

Future Requirements for Improving Battlefield Mobility

Looking to the future, the Army hopes for aerial vehicles able to lift about 20 tons of cargo. These flying cranes by lifting heavy loads over-the-beach without a break at the shore line, would save critical manpower. These craft would be able to help repair breaks in surface lines of supply, expedite movement of large equipment over difficult terrain, lay railroad track, carry structural material for bridges, and transport fuel to the forward combat areas.

To simplify maintenance and supply there will probably be fewer models and types of Army aircraft in the next several years. These will have vertical take-off and landing and short take-off and landing capabilities and will have payload capacities ranging from ½-ton to 20 tons. A new three dimensional weapons platform is also a possibility. The HU-1B helicopter and the so-called "aerial jeep" fit this latter category.

Since the sky of tomorrow's battlefield will be filled with bullets, missiles and jets the Army has little need or desire to compete for a share of this crowded airspace and were it practical, ground soldiers would like to be able to fly, so to speak, with one foot on the earth. This may become closer to reality with the possible future introduction of "air cushion vehicles" developed from our investigation of the "ground effect air cushion" phenomenon.

Exploratory research is being conducted in battlefield mobility for the individual soldier through Jet-Belts. This will enable the soldier to move quickly over short distances by a series of long strides or jumps, jet assisted, while still protected by the terrain.

In the area of supply and maintenance, attempts will continue toward automating supply from source to consumer. Coupled with this, will be stepped up efforts toward making all equipment more rugged and easier to maintain. Simplicity and ease of maintenance is being insisted upon in virtually all Army aircraft contracts and some of the newest helicopters even have mechanics' work stands built into the fuselage to facilitate their maintenance under field conditions.

All new transportation equipment is evaluated on the basis of its "being able to live with the Army in the field."

Up to this point transportation technology has advanced largely thru evolution. By stepping up the intensity of our joint military-civilian drive evolution can be replaced by revolution in the areas outlined above.

To this end the Transportation Corps solicits the assistance of all DATA readers.

HOW TO PARTICIPATE IN ARMY CONTRACTS

General

The Department of the Army's procurement of supplies and services is accomplished by a number of purchasing organizations stationed throughout the United States and overseas. The immense volume and complexity of the Army's needs dictate this decentralization. This form of organization makes it easier for industry to do business with the Army and insures effective responsibility for the adequacy of the supplies and services which it procures.

This decentralization of procurement is accomplished through the seven Technical Services, the six Continental Army Area Commands, and the overseas commands. For certain general commodity areas, procurement is done through single managership procurement agencies, in accordance with assigned missions for supplies and services related to their specific areas of supply responsibility.

Each Technical Service, to effectively accomplish its pocurement requirements, has established one or more principal purchasing offices. These are identified in the Army Procurement Procedure, paragraph 1-251.2. These offices procure assigned production-type supplies and equipment as well as services required for the maintenance or repair of such equipment or supplies. Procurement for research and development may, in some instances, be accomplished by purchasing agencies separately established for this purpose. Normally, this function is performed through general-type procurement offices.

Local purchasing of installation-support supplies and services is accomplished by the individual installations and activities under the jurisdiction of their appropriate Chiefs of Technical Services or Army Area Commanders.

Participation in Army Procurement

The above general statement provides a capsule introduction to the Army's organization for procurement. All segments of industry are encouraged to obtain Army procurement business which will utilize their fullest capabilities and potentialities. Each interested firm should make known to those purchasing offices, where such use will be beneficial to both the individual firm and to the Army, its desires and capabilities. Participation by industry in capably serving Army's procurement needs is welcomed and sought. The Army's contracting officers are always available, and maintain an open door to industry's inquiries. Small business advisors assist contracting officers to obtain increased participation by industrial firms in providing the Army's procurement needs. Any firm which indicates an interest in Army procurement, will, if determined to be qualified, be provided full opportunity to share in filling the Army's needs in accordance with its capabilities.

Army Methods

Each procurement for supplies or services by the Army is accomplished by that method which will be most advantageous to the Government when all such factors as price, quality, delivery, availability, and the like have been considered. Procurements are made on a competitive basis to the maximum practicable extent in accordance with Chapter 137, Title 10, United States Code, and the policies and procedures set forth in the Armed Services Procurement Regulation and the Army Procurement Procedure. Some general information concerning the procurement methods of formal advertising and negotiation may be helpful for a clear understanding of how the Army accomplishes its procurement. The following summary has been supplied for this purpose.

Establishing Bidders Lists

Procurement is basically solicited from the qualified sources carried on the currently maintained lists of bidders of the purchasing office having the procurement requirement. Each company, large or small, must complete and file Standard Form 129 "Bidder's Mailing List Application" and DD Form 558-1 "Bidder's Mailing List Application Supplement" with each office engaged in purchasing the supplies or services which the company is qualified to provide. These forms are available on request at any Army purchasing office. The completed forms are reviewed to establish and identify the company's capability as well as the items for which it is qualified, before the company is placed on the Bidders List. Industry is encouraged to avail itself of this procedure for participation. It is however, prudent to comment on three fundamentals:

- A company should not endeavor to obtain Bidders List status by "broad-side" distribution of sales literature, or by "sales campaign" techniques, or by indiscriminately filing the application forms. A company will attain its most worthwhile expectations by limiting its applications to those purchasing offices that procure the products or services for which the company is qualified and wants to furnish.
- Bidders Lists are periodically purified. A company that has not responded to several consecutive solicitations may be dropped from a Bidders List, unless it notifies the purchasing office that it desires to remain on the Bidders List for future solicitations.

When a company, which has been removed from the Bidders List, desires to be reinstated, a new application form should be filed. A new application form should also be filed when a company's line of products or services materially changes.

When a list of bidders contains more sources than are required to insure adequate competition, limited solicitation may be adopted. When this is done, a rotation of the several bidders on the list is followed to assure that each company is afforded equal opportunity under the rotation sequence. By this method, a company will not be solicited to participate in each and every procurement but it will get its fair and equal opportunity to participate in solicitations over a period of time.

Other Methods of Participation

Notices of Army procurements, having an expected value of $10,000 or more, are filed by each purchasing office with the U. S. Department of Commerce, for publication in its daily "Synopsis of U. S. Government Proposed Procurement, Sales and Contract Awards." Subscriptions for this publication are available at $7 per year. Any company learning through this source, or through any other source, of a proposed procurement in which it has an interest may communicate directly with the responsible purchasing office to obtain a copy of the Invitation for Bids (IFB) or Request for Proposals (RFP) for the purpose of submitting an offer.

Submission of Offers

Normally 30 days are allowed, following the date an IFB or RFP is issued, for submission of bids or proposals in order to afford each source sufficient time to make a responsive offer.

Evaluation of Offers

The essential differences in the method of evaluating offers in procurement by formal advertising and in procurement by negotiation are:

- *Formally advertised procurement.* All bids submitted within the designated time limit are held unopened by the Contracting Officer until the date and hour stated in the IFB and are then opened at a "public opening," read aloud, and immediately recorded on a summary record. Late bids are not opened and will normally be returned unopened. Following the public opening, changes in bids are not allowed. Decision as to the award is premised on the bid prices and any other responsive stipulations contained in the bid. All bidders are privileged to be present or represented at the public "bid opening."

Negotiated procurement. Proposals may be submitted to the Contracting Officer up to the designated acceptance time. There is no public opening or disclosure of the contents of such proposals, nor may they be inspected by competing officers. Proposals are immediately recorded on a summary record. Decision as to the award is predicated not only by the prices or stipulations first offered, but by such subsequent negotiations as may be conducted with the officers. Further negotiations are conducted to the extent deemed appropriate by the Contracting Officer in reaching a "meeting of the minds."

The Government retains the right, by either method, to reject any or all bids or proposals, or to reduce the scope of the procurement first contemplated.

Following the bid opening, or the closing date for receipt of proposals, the Government requires a certain period of time, usually not more than 60 days. Under formal advertising, this period is used for evaluation of bids and for pre-award survey of firms making low offers. For negotiated procurement, this time is needed to evaluate each proposal for further negotiation, if indicated, of proposal prices and stipulations, and to accomplish a technical and administrative survey of the companies considered to be within an award range to determine their ability to perform the contract. These actions of the Government, depending on the dollar value or purpose of the procurement, may involve many levels of Army authority and responsibility.

Following the award of a contract, the unsuccessful bidders or officers are notified through a notice placed in the Department of Commerce "Synopsis," as well as other means of the name of the successful bidder or officer, and the gross amount of the awarded contract.

☐ TRIAL OFFER
6 MONTHS / $6

☐ FULL YEAR
12 MONTHS / $12

☐ CHECK ENCLOSED
FOR $

☐ BILL ME

☐ BILL COMPANY

Yes! Send me DATA

NAME _____

JOB TITLE _____

COMPANY NAME _____

PRODUCTS MADE / SERVICES RENDERED _____

MAILING ADDRESS ☐ Home? ☐ Business?

CITY-ZONE-STATE _____

datagraf PERSONNEL LOCATOR CHARTS AND REPORTS FOR OCTOBER 1959

HOW TO ORDER DATAGRAF CHARTS & REPORTS

Order any of the materials listed here simply by checking what you want on the right hand side of this sheet and returning this listing to DATA PUBLICATIONS. A new listing will be sent to you along with your order.

NEW CHARTS AND REVISIONS AT A GLANCE

NEW CHARTS:

Army R&D Command	1 Oct 59	C-67	$2	☐
WADC (Wright ADC)	1 Oct 59	C-68	$2	☐
TAC (Tactical Air Cmd)	1 Oct 59	C-69	$2	☐
MATS (Mil Air Trans Serv)	1 Oct 59	C-70	$2	☐

NEW REVISIONS: Navy Department, C-2; Office of Naval Research, C-5; Army Rocket Agency (ARGMA), C-24; Dept. of Air Force, C-4; ARPA, C-8; Army Chief Signal Officer, C-9; AMC Ballistic Missile Center, C-48.

OCTOBER 1959 DATAGRAF ORDER FORM

Title of Chart or Report	*Revised*	*DATAGRAF Order No. & Price @*		*Quantity Desired Now*	*Send all New Revisions*
DEPARTMENT OF DEFENSE					
Secretary Defense	1 Sept 59	C-1	$2	.....	☐
Joint Chiefs—Admin	1 Aug 59	C-13	$2	.....	☐
Joint Chiefs—Organization	1 Aug 59	C-53	$2	.....	☐
Joint Chiefs—Secretariat	1 Aug 59	C-49	$2	.....	☐
Defense Finances/FY 1960	19 Jan 59	C-46	$2	.....	☐
Comparison FY 59::60	16 Feb 59	C-47	$2	.....	☐
*ARPA (Personnel & DOD Set-Up)	1 Oct 59	C-8	$2	.....	☐
Defense Research & Eng Pers List	1 Aug 59	R-8	$3	.....	☐
Condensed Phone List of R&E Pers	1 Sept 59	R-8A	$2	.....	☐
Asst to SecDef for Special Operations	1 Sept 59	C-57	$2	.....	☐
Director of Guided Missiles	1 Sept 59	C-58	$2	.....	☐
Military Liaison Committee, OSD, for Atomic Energy	1 Sept 59	C-59	$2	.....	☐
Asst to SecDef for Health & Medical	1 Sept 59	C-60	$2	.....	☐
Asst to SecDef for Properties & Instl	1 Sept 59	C-61	$2	.....	☐
General Counsel of Dept of Defense	1 Sept 59	C-63	$2	.....	☐
Asst to SecDef for Manpower, Pers	1 Sept 59	C-64	$2	.....	☐
Asst to SecDef for Intnatl Security	1 Sept 59	C-65	$2	.....	☐
Asst to SecDef—Comptroller	1 Sept 59	C-66	$2	.....	☐
DEPARTMENT OF THE ARMY					
Dept of Army Chiefs	1 Sept 59	C-3	$2	.....	☐
Army Ballistic Missile Ag	1 Sept 59	C-22	$2	.....	☐
Army Ord Missile Cmd	1 Sept 59	C-21	$2	.....	☐
*Army Rocket & GM Ag	1 Oct 59	C-24	$2	.....	☐
*Army Signal Corps—DC	1 Oct 59	C-9	$2	.....	☐
Army Signal Corps—R&D	1 Sept 59	C-10	$2	.....	☐
Army Signal Supply Agency	1 Sept 59	C-11	$2	.....	☐
Army Chief of Ordnance	1 Sept 59	C-17	$2	.....	☐
Army Deputy Chief of Staff	1 Sept 59	C-19	$2	.....	☐
Army Adjutant General	1 Sept 59	C-20	$2	.....	☐
Hq 2nd US Army	1 Sept 59	C-18	$2	.....	☐
Army Eng R&D Lab	1 Sept 59	C-29	$2	.....	☐
Army Transportation Supply & Maint	1 Sept 59	C-34	$2	.....	☐
Army Transportation Activities Map	1 Feb 59	C-35	$2	.....	☐
Army Trans Training	1 Feb 59	C-36	$2	.....	☐
Hq Continental Army Cmd, Ft Monroe	1 Aug 59	C-55	$2	.....	☐
Army Chief of Chemical	1 Sept 59	C-37	$2	.....	☐
Army Chemical Eng Hq	1 Mar 59	C-39	$2	.....	☐
Army Chemical R&D Labs	1 Feb 59	C-38	$2	.....	☐
Army Installations	1 Sept 58	R-4	$2	.....	☐
**Army Chief of R&D	1 Oct 59	C-67	$2	.....	☐
NAVY DEPARTMENT					
*Navy Department Chiefs	1 Oct 59	C-2	$2	.....	☐
Office of Naval Research	1 Oct 59	C-5	$2	.....	☐
Navy Bureau of Aero	1 Sept 59	C-14	$2	.....	☐
Navy Bureau of Ships	1 June 59	C-15	$2	.....	☐
Navy Bureau of Ordnance	1 Sept 59	C-16	$2	.....	☐
Chief of Naval Operations	1 Mar 59	C-23	$2	.....	☐
Naval Research Lab (NRL)	1 Aug 59	C-54	$2	.....	☐
Navy Installations	1 July 59	R-3	$2	.....	☐
DEPARTMENT OF AIR FORCE					
*Dept of AF Chiefs	1 Oct 59	C-4	$2	.....	☐
Air Force Bases—Map	1 July 59	C-6	$5	.....	☐
AFOSR	1 Apr 59	C-7	$2	.....	☐
Air Materiel Command	1 June 59	C-30	$2	.....	☐
AMC Report	1 June 59	R-5	$3	.....	☐
AMC Aero Systems	1 June 59	C-45	$2	.....	☐
*AMC Ballistic Missile Center	14 Sept 59	C-48	$2	.....	☐
AF Missile Test Center (AFMTC)	1 Sept 59	C-42	$2	.....	☐
**AF WADC	1 Oct 59	C-68	$2	.....	☐
AF Ballistic Missile Division (AFBMD)	1 Sept 59	C-50	$2	.....	☐
AF Dep Chief Staff—Materiel	1 June 59	C-52	$2	.....	☐
ARDC	10 July 59	C-33	$2	.....	☐
Air Force Installations	1 Sept 59	R-1	$2	.....	☐
OTHER CHARTS					
Federal Aviation Agency	1 Sept 59	C-12	$2	.....	☐
Natl Aero & Space Admin	1 July 59	C-31	$2	.....	☐
Congress & Committees	16 Feb 59	C-43	$2	.....	☐
DATAGRAF REPORTS					
Air Force Installations	1 Sept 59	R-1	$2	.....	☐
Navy Installations	1 July 59	R-3	$2	.....	☐
Army Installations	1 Sept 58	R-4	$2	.....	☐
AMC Contractors' Guide	1 June 59	R-5	$2	.....	☐
Pentagon Guide—OSD	1 July 59	R-6	$2	.....	☐
Pentagon Guide—JCS	1 Aug 59	R-7	$2	.....	☐
Army Signal Corps	1 Sept 59	R-9	$3	.....	☐
Army Trans Corps	1 Oct 59	R-10	$3	.....	☐
DODO Book (DATA OUTLINE of DEFENSE OBJECTIVES)	17 Mar 59	D-1	$15	.....	☐

* Revised this listing. ** New offer this listing.

★ ★ ★

DATAGRAF Reader Service
DATA Publications
Dupont Circle Building, Washington, D. C.

Gentlemen:

Please send me the items I have checked.

☐ **Payment Enclosed** ☐ **Bill Me** ☐ **Bill Company**

Name.....

Company.....

Address.....

City-Zone-State.....

FRANKLIN "ONE FLUID" and the IONOSPHERE

Creative Imagination enabled Benjamin Franklin to orient all the observed electrical phenomena to his own "one fluid" theory—the basis of all our comprehension of electricity today.

At National Co. creative imagination is continuing to broaden our comprehension of the physical universe and apply it to the realization of such new means of communication as Ionospheric scatter systems.

The implications and applications of such new means of communication are vast.

National Co. is a community of minds and talents that enjoys the challenge and the prestige of success in such advanced fields as multipath transmission, noise reduction, correlation techniques for signal processing, Tropospheric scatter systems, Ionospheric scatter systems, molecular beam techniques, long range microwave transmission, and missile check-out equipment using microwave and digital techniques.

National Co. has grown with the Tradition of New England electronics. Your needs and problems receive exceptional attention at National Co. because, here, *creativity is required, recognized and rewarded.*

Write or phone

"tuned to tomorrow **National** NC

National Company, Inc., Malden, Mass.

MANUFACTURERS OF MATERIEL AND EQUIPMENT FOR U.S. DEFENSE

BURTON BROWNE ADVERTISING

11

BURTON BROWNE ADVERTISING